



## THE EDUCATION OF THE ARCHITECT.

Discussion at the second Informal Conference held at the Royal Institute of British Architects, 7th February, 1917.

CHAIRMAN: MR. REGINALD BLOMFIELD, R.A. [F.].

THE CHAIRMAN: I need hardly say that the subject we have met to discuss is of the highest importance. It has been closely considered by the Institute for many years past. Turning over some of my papers recently I came across a memorandum on the Report which I drafted, after consultation with many members of the Institute, in 1904. At that date we laid down certain lines on which we thought architectural education ought to proceed: and these were adopted by the Institute, and, in the main, have been followed ever since throughout the country. I think I am right in saying that the high level of competence that one now finds in the rising generation of architects is largely due to their much improved training. I have had some experience of architects during the last thirty years, and I certainly think that the younger men who are now practising architecture are very much better trained than they used to be in my time, when we had practically to find out for ourselves what we wanted to know, in the best way we could.

Still, the organisation and the reform of architectural training which was brought about 15 years ago, though it has done very well, could not stay there. We have to keep abreast of new conditions, new necessities, and we must modify and extend our training to meet these new conditions. There is only one caution I would suggest, and that is, that though modern construction has made extraordinary strides in recent years, and though a great many new materials and new inventions have come into current use, with all of which students ought to be acquainted, yet there is no need, when we move forward, to burn our boats, that is to say, to turn our backs on the knowledge which has been acquired by many generations of hard training and study. I think we shall do wrong if we neglect that. What we have to do is to supplement that knowledge, to maintain the level of that training, but to associate with it a more thorough scientific training. Our students will have to get a grip of these new methods, on the lines that we laid down some years ago, and that must be developed.

To-day, and at the next Conference, I hope those who have any ideas on this subject will contribute

them to the common bank, because what we have to do now in this time of suspense, and in so far as we can spare the time while doing what we can in the service of the country, is to get our ideas together and into shape, so that when things settle down again, we may know where we stand and the line we may have to take.

Professor Simpson was to have been here, but he is laid up with influenza. I regret that, because he was a pioneer in education: he did a great deal of most valuable work at Liverpool, where he laid the foundation of that splendid school which is presided over by Professor Reilly. We have here Mr. Robert Atkinson, whose admirable work at the Association School we all know. I venture to claim Mr. Atkinson as one of the finer products of the re-organised training which the Institute initiated many years back. We have also with us Mr. Davies, of the Board of Education. Mr. Davies has told me a very encouraging thing: that he took the hint of the laboratory building which was suggested by Professor Lethaby in 1904, and that the Board of Education think so highly of the suggestion that they are taking steps to organise these laboratories wherever possible.

We have also present Mr. Roscoe, Secretary of the Teachers' Registration Council. I am afraid I am not a *persona grata* with art teachers: they possibly look upon me as an enemy. What, however, I have endeavoured to do for years with regard to art schools is to get the teachers co-ordinated and graded, so that they may not work at random, and that schools may be got into touch with each other: that the burden may not be too heavy for the weaker man, and that the stronger man may have plenty of elbow-room. That is the best service you can render for the art teachers. I am glad to say that that scheme, at which my colleagues have been working at the Advisory Council at Whitehall, has been accepted, so far as it is possible to accept these things, by the Board. Progress is therefore being made, and I am hopeful that at this Conference and the next we may get some ideas together, which will have to be further studied, and which will be of use in later developments.

MR. ROBERT ATKINSON [F.], Headmaster of the Architectural Association's School, read the following Paper:—

These remarks which I offer you are necessarily very vague and tentative, liable and even welcome to alteration. I look upon architecture as an art of the future, not of the past alone. We are confronted with problems daily, such, for instance, as aeroplanes; temporary sheds house them at present, but in the near future they will need permanent buildings and landing-places perhaps in cities. An architect should be prepared for such steps in progress. By his training he should be able to foresee or anticipate developments; they do not come without warning, they are purely evolution, their trend is already settled, they need only courage and spirit for their solution, but they need different treatment to anything done before. Our ancestors were in a similar case, and they produced the beautiful solutions which we spend our lives in worshipping and copying, a spirit to be admired, but an almost useless exercise.

Why should we not then move forward as they did; accept our conditions and our materials, use them, and perhaps produce beautiful buildings which will be in the true sense logical?

We are richer in knowledge than our ancestors, richer in materials, in money; are we then deficient in courage, in enterprise, and in taste?

We are torn between our reverence for the past and our modern logical reasoning intelligence; invariably our ancestor-worship wins. How often do we see our modern materials used courageously and properly? What would not our worshipful ancestors have given for our steel, our ferro-concrete, our glass, our asphalt, our asbestos, and our hundreds of new materials?

Evolution has progressed recently by the square of its former velocity, with what result? Since the introduction of steel, tradition, which once kept pace with progress, has been hopelessly outpaced. What a pathetic breakdown was then witnessed! The engineer passed the plodding, conservative, hidebound architect on the wings of the wind; he produced bridges and railway stations before the bewildered architect could collect his instruments or mount his paper.

The engineer showed his naked steel—the architect persisted in hiding it—it was not a traditional material. Palladio or Batty Langley was searched in vain; what could one do with these attenuated proportions?

Result, chaos!

Since that day the architect has never kept pace with his materials; he periodically puts on a spurt to find that the materials he has just conquered are superseded by new, and, like the dog tied behind the express train, prays for a collision.

A partial solution of all these problems lies in the *training of the architect*; unfortunately, were we to begin to-morrow, it would still be five to ten years before the result became apparent.

I stand then confessed as a supporter of logical training; but how to accomplish it?

By training I mean, of course, the *beginning of training*, for an architect is a lifelong student, *but the beginning is the part which matters*; the first impressions, the glimmering outlook must be the corner-stone, if years, and perhaps lifetimes, are to be saved. This outlook depends primarily upon the ability of the master, but within certain limits a generally similar outlook can be arrived at, first, by the education of the *masters*, and, secondly, by *their* work amongst students.

It is important then to settle in definite terms for the master's guidance an outlook of the broadest possible character and arrange programmes of education which can immediately be put into force; not narrow-minded courses, but courses open to temperament and capable of constant improvement.

Architecture, I am aware, is a complex subject—its side issues limitless, its study fascinating—and life, after all, is very short; but we have men of experience willing and able to save the student useless toil and to give him the benefit of their experience—so only can evolution take place—by enabling each generation to begin on a higher plane.

Elimination of inessentials is the first step in our progress; this sounds simple enough, but in practice may be difficult, because here *taste* plays a part, and taste is an abstract subject shaded according to the individual: generally a majority of opinion can be secured which will point the proper way; and in elimination we have the first essential of education.

Then there is the temperament of the individual students; each needs separate treatment: some are shy, some quick-witted, others dull or thick-skinned or thick-headed. All the traits of human character need studying by the master; he will encourage the shy and exercise severity or even elimination where necessary.

There is the question also of organisation of the machinery of education, a gradual sifting of elements and the provision of higher stages for those who attain to the higher flights. Obviously the higher the grade, the fewer the numbers, and of course the magnet or culmination should be in London.

Who is to provide these facilities?

Beginning with the public schools where freehand perhaps is taught, there follow the local science or technical schools, and finally we reach a stage when architectural training may be differentiated from the technical or art training common to other professions. Thus far I do not call it architectural education at all; but the machinery exists and might be conveniently used to save the expense of teaching such elementary subjects in architectural schools.

Now to begin with the training of the architect properly so called.

Architectural education should be precious and not sold in the market-places to all comers; only those schools which can maintain a satisfactory number of students should be tolerated.

By satisfactory I mean twenty or thirty at the least.

Assuming a three years' day school course, ten students in each year, or thirty in all, would provide the—in my opinion—necessary competition and liveliness.

It is one of the essentials and advantages of a school that a student may see by his side a dozen other men working on the same problems; he gauges his standard and progress thereby and works accordingly. He also sees a dozen possible or impossible solutions, he sees perhaps all the possible impossible solutions and learns a dozen lessons on each subject.

Beyond these schools should be provided that which at present is not—further stages as the student advances.

These would be the summit of the pyramid, organised in London only (for the present), and organised by the Institute itself. From the body of the Institute could easily be selected the officers necessary.

Again, in these advanced studies we need competition, a series of five or six competitive studios each with twenty or thirty students, part or whole time, each under the directorship of eminent architects, each student of each studio ready to swear by his director's advice, jealous of his studio's success and reputation, and willing to work for the good of his studio, if he is careless of his own, each student helped by his fellows and by his director. All these studios working on one programme, judged periodically by the collective directors, criticised and placed according to their logical solutions of the programme, an award perhaps of laurel leaves for the winner, a sufficient reward—the esteem of his fellows.

Such is an outline of my ideals.

To revert to the details of education a little more. I disagree entirely with many of the present methods of teaching—the system of dividing into watertight styles, the divorce of historical architecture and construction—by such methods a student is accustomed to look upon the styles as separate periods beginning at a given date and stopping at a given date, as if history were like the turning on and off of a tap.

Historic architecture is part of the life of its particular period, the influences of daily habits, the capacity or intellect of the people, the materials in use, the methods of construction, and the influence of all these things on the architecture. Teaching should show whether the architecture (design) is deliberate, or dictated by the materials and habits of life. These are of more importance than a string of names of dates, of dimensions, like a glorified Baedeker.

Of what use is it to know all these things without being able to analyse them? To pick out those that are useful and those that are not, and to be able to apply the result to modern problems, this essence of analysis is the faculty which will tend to solve our modern difficulties. We do not wish to become archaeologists—at least, except for pleasure).

With planning it is the same thing—we do not study ancient planning for its dimensions—we wish to learn to analyse, to see how the forms of roofing dominated the spacing and shape of rooms, whether the roofs be

flat, domed, vaulted, or columnar, to see why axial lines are maintained and why adopted, to see if parallel axes are good or harmful, to see if in massing the largest rooms have the thickest walls and rise up to a greater height, the use of climax and anti-climax, to see if internal massing dominates external massing, and when external grouping was first developed.

Then follows the grouping of separate buildings, their connection, the domination of the more important, their approaches and the study of the points from which they will be viewed, the deliberate confining of spectators by walls or obstructions to the vicinity of the points of view desired.

Again with historical construction, how can this be forcibly extracted from its setting, set down in textbooks as average diagrams, copied faithfully by students and advanced as evidence of knowledge?

What part of *historical* construction, except, perhaps, masonry and brickwork, applies to modern construction? (Domestic buildings excluded.) Very little. How much of this old construction is obsolete? All but the more simple part of it, at any rate. Who ever uses queen-post roof trusses? Why not then teach historical architecture and construction as one subject and begin *modern construction* on the foundation thus provided?

Let *expression* be a part of our modern construction; let the use of the building, be it library or warehouse, be *expressed* by its appearance and its materials. Why should a steel-framed or ferro-concrete building be clothed like an Italian palace or a Roman temple? Simulating ponderosity on a slender framework: why waste the client's money and floor space?

Why load a framework with unnecessary weight?

Why blot out the precious daylight with simulation rustications?

Why not live the life of the occupant for a few days and learn what *he* considers a good building for his business?

The architect always has a tendency to lock himself up with his books when he prepares his design; why not go out and see life? I mean the life of the intended occupants, the poor devil who has to pass his life in a room with a small window either on the ceiling or on the floor or perhaps even sharing it with another poor devil in another little room.

The architect always has a preconceived notion at the back of his head which he must work off on the first-comer, a result of poverty of ideas and lack of logical education.

You will say that these new methods and materials are ugly, that the results will not bear comparison with old. Probably so, but that is the architect's fault. And again, taste is a matter of education: even these so-called ugly things may be so gradually improved—or, if you like, become so familiar—that they unconsciously become better.

Many minor points hang upon these greater ideals. Heating, for instance, is not satisfactory, nor is lighting—I mean the methods of diffusing the light. We

still copy candles because we cannot produce decent electrical fittings. Inverted lighting is certainly an improvement. We worship at the shrine of the past too much, we are not sufficiently materialistic. We should use the past as a step for the future, not look upon it as an unattainable level and say that the next best thing is to copy it blindly. *The past* was not produced by such methods; how then will it fare with the future?

Books are certainly the foundation of an architect's knowledge, but they must be *used, not worshipped*.

Draughtsmanship is another point. There are people who say that the good draughtsman has spent so much time in perfecting his art that he has had no time to learn anything else.

Draughtsmanship is certainly a great help to the architect. It is easier to visualise a building from a good drawing than a bad one, and when not abused the projection of shadows and rendering is invaluable in finding the correct massing of parts and the correct weight and projection of ornaments—always, of course, allowing for that elusive element "taste."

My own experience of students is that the best perspective hand is usually the most prolific designer and the best at the handling of masses, his faculty of "*seeing all round*" being more highly developed than that of his fellows.

I do not enter into minute details of curriculum, they are matters for the schools themselves; but, with regard to the examinations, I believe that if the Institute were more directly connected and interested in education on the lines sketched the examinations would be a truer test of value.

I quite realise that all architects cannot climb to these dizzy heights and that the plodding person is the backbone of the profession. For that reason I think it would be a great injustice to raise the standard of the examinations to too high a level. It would be better to award post-graduate diplomas for, say, design, town-planning, scientific research, or specialised subjects; these would tend to the continuation of studies in the particular line of each student and get rid of the idea now prevalent that once the Final is passed the goal is reached.

Combination in business, too, might be encouraged more than it is; very often a particular person's lack of success is his lack of business ability or some one-sided reason. Why not, as in America, have three or four partners, each a specialist in his own line?

These, roughly, are my ideas on the subject. I do not expect you to agree with them. I am quite prepared to improve them. I do not believe that they are at all final. But I believe that I see clearly a line of progress which, developed on logical lines, will help forward our mutual cause.

MR. ALAN E. MUNBY, M.A. [F.], rose at the instance of the Chairman to read a Report he had been asked to make to the Board of Architectural Education with reference to the meeting of Public School Science

Masters held at Eton at the beginning of January, under the presidency of Dr. Turner, Professor of Astronomy at Oxford. It was an annual conference, he said, which had been in existence for some years, and he had taken part in it in order to see what was being done, and on account of the increased interest in science now being taken by the architectural profession. The Report was as follows:—

"The Conference, which represented all the best-known Public Schools and was very well attended, was chiefly concerned on this occasion with a consolidation of the views of members upon the position and scope of science in a school curriculum, having regard especially to the inferiority of our national attainments in the various fields of applied science, as now so lamentably demonstrated. The chief aim, however, of science teaching in schools was regarded not as that of making scientists but of inculcating habits of methods and general inquiry, of, in fact, teaching boys how to learn, a view which merits a wider acceptance than it at present enjoys, as being the proper function of education. At the same time, the great need for some direct rudimentary knowledge of science was regarded as essential among students who would subsequently have the control of national affairs, in which sphere there is at present an absence of sympathy towards science and a great ignorance of its value.

"In the discussion which followed a Paper entitled 'Technical Bias in School,' I introduced myself as the representative of your Honorary Examiners, and laid stress upon the material and technical needs of an architect's training, pointing out the many problems which the needs of construction and modern equipment involved and how necessary it was that a good groundwork of science be obtained, and how this was helpful and not detrimental to the art of architecture. I further expressed the hope that the Royal Institute of British Architects would be kept in touch with the development in school teaching which the stimulus of the Conference seemed likely to initiate."

If I may be allowed to add a personal opinion to my report, it is that the Royal Institute of British Architects should endeavour to come more closely into touch with our well-known schools, with a view not only of assisting the education of boys destined to become architects, but, by making the profession of architecture better known and understood, help to draw its students from the ranks of the Public Schools to a larger extent.

That much more science is required in an architect's training, if modern structures are to continue to be within his province, will probably be admitted, and much of this knowledge might be obtained at the Public Schools were the Board's Examination framed to require it and made more widely known.

MR. HUGH DAVIES, who was called upon by the Chairman, said that the Board of Education had just issued a Memorandum, dealing with the teaching of



building subjects in technical schools, which would no doubt be of interest to those concerned with architectural education, especially on its scientific side. He particularly instanced the suggestions contained in the Memorandum regarding the establishment, equipment, and organisation of Building Laboratories for instruction in the scientific principles of building and for experimental work on all kinds of building materials, brick, stone, limes, cements, wood, etc. The idea of these building laboratories would not be a new one to architects. In a highly interesting address given to members of the Institute on the establishment of the Institute's Board of Architectural Education in 1904, the present Chairman, Mr. Reginald Blomfield, urged the need of such laboratories for the instruction of architects' pupils. [THE CHAIRMAN: The idea belonged to Professor Lethaby.] It was to be hoped that these laboratories would be established in every important centre of building education, and that they would be used not merely by class students but also by practising architects who wished to carry out investigations on local materials or to conduct research on matters of building interest. The Board's Memorandum also dealt in detail with complete schemes of instruction in building and included many suggestions on matters such as those being discussed by the present conference.

THE CHAIRMAN: We are getting such an immense amount of material that unless we are careful we shall lose our way. I think we might now set to work more systematically. I suggest we try to deal with specific questions, one at a time. We are then more likely to arrive at clear ideas, and shall have our material in a more compact form. I have put down one or two heads as a possible programme.

The first is: How far should scientific training go for the architect? We touch science extensively but cautiously. Architecture, though it has science in it, is an art: that must not be overlooked. In the finest forms of applied science art is implicit, because they are the realisation of ideas in their essential forms.

Another subject is: What relative importance should be given, let us say, to draughtsmanship and the use of the past?

Another: What is the right way to study architecture?

Then we might follow with the organisation of schools, which raises a tremendous question, because out of that would arise a question which was raised by Mr. Atkinson: How far it is desirable to deal with architectural training in preliminary education.

Then we come to the part which we are more competent to deal with, that is the organisation of our own schools. And I hope the point which was raised by Mr. Davies will not be overlooked—namely, the question of the organisation and co-ordination of the schools throughout the country, reckoning our own architectural schools as important factors in the art schools of the country. Mr. Davies touched on the

difficulties of less favoured students to get from one stage to another.

I suggest that we deal with these topics systematically, and that we now proceed with this question: How far scientific training should go: what sciences should be taught the architectural student, and in what way? I call upon Professor Adshead.

PROFESSOR S. D. ADSHEAD [F.].—In view of the interest that is at the moment being concentrated upon improvements in the so-called scientific side of an architect's training, I propose to submit a few remarks which may help to remind us that architecture is an art, and in its highest aspect a fine art and the mistress art. In so doing I would direct your attention to the *KALENDAR*, and therein to the short preface to that section which deals with Education, which, to my mind, contains a definition of architecture distinctly open to criticism.

But I would like it to be understood at the outset that I thoroughly appreciate all that has already been said with regard to the importance of making the scientific training of an architect more thorough, and also that I regard our present educational system in its general working through the schools, and as fostered and guided by the Institute, as exceedingly good. Though not a teacher of architecture, I speak with some practical knowledge and insight, having been for some years in very close touch with two important schools. But in my appreciation of what is being done I would go further, and would say that the high ideals of the schools to-day, and indeed of the Board of Architectural Education, are in advance of those set up in the short treatise referred to. The principles of architecture there defined are to my mind narrow and of a partisan character.

I do not regard this as an occasion for suggesting possible improvements in courses and administrative methods. What I wish to say is directed to a nicer appreciation of fundamentals.

Let us turn to the *KALENDAR* and note what it says on the general question of Architectural Education. It tells the prospective student that the training is to be governed by the principle that construction is the basis of architecture, and its correlative principle that architecture is the interpretation of construction into forms of æsthetic value; that the student should be trained in construction, that he should be introduced to examples of architectural form which illustrate the solution of building problems in the past, and that the genesis of these forms is construction, and so on, in the same vein.

Now I submit that this is a partisan view. I submit that it defines the principles of architecture only as understood by certain schools, possibly Neo-Gothic sections of the Gothic revivalist movement, the Secessionists and others whose architecture, it seems to me, aims merely at the achievement of mechanically manipulated detail and the literal expression of how it was done. The interest it arouses is consequently limited

to an interest in methods of execution—a mechanical petulance.

It is a dangerous doctrine, for I submit that if the word construction means here what architects usually understand it to mean, the resultant architecture could never reflect those flights of the imagination which, as the mistress art, it alone can rise to.

No, architecture is not based on construction, on the spacing of stanchions, on the jointing of girders, on the depth of beams and the spans of trusses. It is a medium of emotional expression giving utterance to phases of the fancy, arrived at like all the arts by processes of suggestion. It suggests phases of human thought, aspects of mind, conditions of temperament, states of conscience, and particularly such as bind us to this earth. And construction is nothing more to architecture than the peculiarities of paper and pencil are to the draughtsman. Construction merely controls the method and defines the medium of expression. It has nothing to do with the thing expressed.

The Parthenon, the Pantheon, Genain's Library, the Pont Alexandre, Paris, and the spire of Salisbury Cathedral are not only pieces of construction æsthetically expressed; they are much more—they are imaginative conceptions submissive to the limitations of the material of which they are constructed; and therefore it is my view that at the outset of a student's career he should be taught that architecture is akin to the fine arts; that, like painting, music and sculpture, it is an emotional art, and that the kind of emotions which it can arouse are closely related to those which are aroused by reference to history and tradition; that being more dependent for its expression upon material than are painting and sculpture, construction and a knowledge of construction are absolutely essential to its practical realisation, but nothing more.

Again I submit that what we want to do is to improve our educational prospectus, and insist more emphatically that architecture is in its finality a fine art.

THE CHAIRMAN: With a great deal of Professor Adshead's Paper I sympathise entirely. I devoted two years' Academy lectures to driving that in to the best of my capacity, and at very considerable length. Still, I do not know how that comes into my suggested programme. It is easy to branch out into an immense discussion as to what architecture is, but I do not think it is the subject we have to deal with to-day—unless you like to take a general discussion on architecture.

MR. ADSHEAD: I launched that criticism in its reference to the introduction of architectural training as set out in our KALENDAR. I think it should be revised, and that we should look at architecture more as an art than as good construction.

MR. H. V. LANCHESTER: I feel that until we have got our ideas clear as to what architecture is, until we are a little more definite on that point, it is almost impossible to discuss the other.

SIR JOHN BURNET, R.S.A., LL.D. [F.]: Would it

clear matters if the meeting were to come to the conclusion that it should talk of architecture as a craft, and of the architect as an artist who can exercise the craft? We have certain very practical and definite responsibilities towards our clients, and to meet these responsibilities we need to be educated; but we cannot make our architecture "art," as we cannot make ourselves artists. Do you not think we could settle down better to a discussion on architectural education if we were first fairly unanimous on the nature and number of these responsibilities? We could then eliminate the terrible question as to whether architecture is a "craft" or an "art."

THE CHAIRMAN: The question is: What is the technical equipment of an architect?

MR. GERALD HORSLEY [F.] offered some remarks upon the courses of instruction at the Ecole des Beaux-Arts, Paris, but agreed at the request of the Chairman to defer them to a later stage of the Conference, when questions connected with the constitution of architectural schools would be considered.

THE CHAIRMAN: It is very important to know the opinion of members of this Conference in regard to the teaching of science to architectural students. We have never quite grappled with it, as to how far it should go, where it should stop, what is essential, and what the student can do without. Perhaps Professor Lethaby, who has studied and has definite views upon the question, would speak upon it.

PROFESSOR LETHABY: I feel that it is false to set up an opposition between science and art at all in these matters. What should be meant by science is generalised or theoretical knowledge or preparatory knowledge, going very far. But science, in its application, is an art, such as the building art. The knowledge preliminary to the laying out of a great bridge, the knowledge of metals and of stresses, is science: but the putting it into operation, the building of the bridge or of the battleship, is an art. It is mere obfuscation and obscurantism and everything bad, this suggested opposition between art and science. I would make the teaching of architecture wholly science. When that comes to be applied, it will become an art. By saying I would make the teaching of architecture wholly scientific, I do not mean the learning about the science of geology, for instance, but I would attempt to set out the real science of building: the exploration of the possibilities of planning through an architectural geometry, and that sort of thing: to know the possibilities of designing through the mechanical necessities of structure, and so on. I would allow no taste to come in teaching. Some day we shall come to realise that we have been dealing with a contradiction in terms, for all teaching is scientific: you can teach nothing but science, and to teach science is to open the way to art and temperament, to taste, or whatever you like to term it. It is always there, and it will always come in. You are giving the man the means, and nothing else should be taught but science. We had a very interesting, com-

petent and remarkable Professor of Painting visiting this country from Brussels, and he said exactly the same thing about the teaching of painting, that they were coming to the conclusion in Brussels that what should be taught was the science of painting, and that the artist had the rest of what was required in himself: he had temperament, genius, or whatever you like to call it. They had come to the conclusion that it was their business to teach the science of painting. In the same way, I think, we shall have to come to the conclusion, some day—it may be twenty years, it may be 200 years hence—that the only thing which can be taught in architecture is the science of it, science all round: geometry as applied to it, mechanics as applied to it; but that does not ignore the question of the art, or the temperament, or the genius: it opens the way to those qualities.

MR. F. ROSCOE, Secretary to the Teachers' Registration Council: The question of the relation between science and art is one which has troubled men from the earliest recorded times, and we have to determine how much, if at all, the study of science is of direct help to the artist. In Herbert Spencer's book on *Education* in which he advocates the teaching of science, he refers to the well-known statue the "Discobolus," and says that if the sculptor had possessed a rudimentary knowledge of science he would have known that after throwing the disc the man must inevitably fall to the ground; but Herbert Spencer probably overlooked the fact that on releasing the disc the athlete would have moved his foot and so have preserved his balance. The artist knew this and was not thinking solely of the mechanical science. I therefore suggest, although with diffidence, that sciences never generate arts out of themselves. Science is organised knowledge. You can work backwards from art to science but you cannot work forward from a science to an art. I agree with Professor Lethaby that in the relation between science and art everything depends on the artist.

This is capable of very broad general application, and I think it applies to architectural training, as to all education. The radical defect of all education, as I see it, is that it tends to attach far too much importance to the grammar of subjects, and too little importance to the subjects themselves. For instance, the Early Renaissance enthusiasts were enthusiastic for Latin and Greek literature. Very soon someone arrived—his name was John Stürm, a German—who had what we regard as the characteristic German habit of organising and systematising. He systematised Latin and Greek grammar. Having worked back from the art of literature, he cut it up into convenient chunks, and had it taught in a large school at Strassburg. Then he found he need not have very well-qualified teachers, because anybody with sufficient industry could keep sufficiently ahead of his pupils in his little compartment of the subject to keep him going. That was an enormous success, and the

result was that the method was imitated all over Europe. Thousands of boys under the pretence of learning Latin and Greek in this country are not learning Latin and Greek at all: they are occupied with learning rules and exceptions to rules in Latin and Greek grammar. You see what harm you can do by emphasising the rules of grammar, and forgetting the thing which is behind the grammar, a very much more important matter. It is to bring about some relationship between the necessary elements or rudiments of a subject and the subject itself which is the supreme problem of education to-day. In every school we need that. Boys go to school keen, full of curiosity, having pestered their parents for years with questions. But they leave school not desiring to ask questions any longer, not wanting to know anything. That is one of the results of our present methods in education. It turns an alert, bright, questioning boy into a dull student, one with a limited outlook. His view is changed because he can now only look at the things which education has prescribed for him. That is the danger of all technical instruction. You can give a pupil most accurately and fully the science of architecture, the knowledge underlying his craft, but unless he can proceed and gather instruction from the practised craft, he is not going to become the finished product which you desire him to be.

So I submit, sir, that the scientific training which does, of course, underlie every art, even down to the sweeping of the road, must never be undertaken except in constant relation to the actual art which is contemplated. That is why I am so glad to hear Mr. Davies say that the Board of Education no longer favours the idea that all students in a school can be classed and massed together to learn mathematics and science, and afterwards separated into architects and what not. The sooner you get the student learning mathematics and science in the atmosphere of his future calling the better he will learn his subjects. I am aware that I am rather dogmatising, which is the last thing one wants to do in connection with education, but what I am about to say has a further important bearing on the question.

It is unfortunate that science is easier to examine in than art. I have myself been an examiner for many years, and I know how easy it is to examine in science. I would rather set a paper on English grammar than on English literature: and any of you, I take it, would rather set a paper on the scientific part of architecture, which can be done up in neat little parcels, than set a paper which requires thought and judgment in seizing the point of the answers given. And the conclusion I reach from that is, that examinations should follow the curriculum, and not determine it. You must decide what is the best training for an architect, and make the examinations fit the training—not make the training fit the ideal examination. If you think too much of the science underlying the art and the craft of architecture, your examinations

will have too much science in them, and the training will have too much of it, too: the training will be insulated from the reality of the art itself.

Herbert Spencer said that if we all knew the workings of our bodies we should be healthy folk. I do not know about that. There is an art of life, and doctors, who may be presumed to know about their bodies, do not all practise that art in a way to arouse our admiration. And so it is with the question which is before us now. The value of science, in any form of training, is strictly limited: it is limited by its immediate applicability to the purpose involved. And, further, I think that the continued interest and zeal of the student largely depend upon his appreciation of the continued applicability of what he is learning at the moment, the purpose in his chosen calling. I am against the attempt to teach detached science, in any shape or form.

THE CHAIRMAN: I think there is not the conflict of opinion which might have appeared to Mr. Roscoe to exist. As I understand Professor Lethaby, I think his views and Professor Adshead's are reconcilable. Sir John Burnet put it in a concrete way when he said let us look upon it as a craft. Professor Lethaby said science is necessary for the architect as part of his technique, so that he can use his materials properly. He is not expecting that we shall all be scientists. Still, we all feel that every competent architect in the future will have to know his way about in the scientific treatment, and how to use materials to the best advantage and shape them to the best form. I sympathise with both Professor Lethaby and Professor Adshead: both are driving on to the same thing, from two points of view, and out of them we shall get the right way to the science. The test of the scientific knowledge will be the use we make of it.

[The Chairman here apologised to the meeting for having to leave the Chair to fulfil another appointment, and Mr. Lanchester at his request took his place.]

(MR. H. V. LANCHESTER, IN THE CHAIR.)

SIR JOHN BURNET: I have felt very strongly upon the subject of architectural education for many years, and I think we must be borne with if we become a little scientific for the moment, on the ground that we have been fighting a battle for some years on what, I hope I am not offending anybody by calling, the stylists' view. It is our first duty to be intelligent citizens, keen and sympathetic students of the requirements of our time. To this end it seems to me a higher standard of general education should be required of our students before they enter upon their architectural studies.

I thoroughly appreciate what has been said in reference to the Ecole des Beaux-Arts, and the system of monthly "projets" which form the background of the course of study there, but as one of the few students from this country who committed themselves to the whole course, I would like to express my belief that

these "projets" are intended to indicate to the student the part that arrangement-of-plan plays in his "art," and that he may appreciate how far he has profited in design by the study of those books illustrating the subject, which are available to him, and, along with his drawings from the cast and his modelling, are together, exercises in design and technical methods of expression.

The more important part of the course seemed to me then, as a student, and still seems to me, to have been the lectures to be attended on History, Higher Mathematics, Stereotomy and Construction, with their final written, and oral, examinations, the failure to pass in any one of which meant being "sent down" for a year; and the satisfaction and enthusiasm with which each student entered upon his final "projet," the "Projet of Construction," which indicated his progress alike as a designer and constructor, and enabled him to pass into the first class, showed, I think, that others held the same opinion. It is the lectures, and drawings made for them, and the examination before and after the "Projet of Construction" that teach the student his craft. The "Projets," drawing from the cast, and modelling, are all influences, the power of which, like the books he studies, his fellow students in the studio, and the distinguished architect in whose studio he works, must always depend upon the nature of the student, and his ability to profit by them. The first makes it possible for him to practise the craft of architecture. The second affects only the way he does it; if the second course is earnestly followed his work should bear the stamp of "culture," or it may be of "genius."

Having referred to the Ecole des Beaux-Arts at such length, I must admit that the Professors of Construction and History were in their respective spheres consummate artists—M. Brune, the Professor of Construction, left the Ecole St. Cyr as one of its most brilliant students, and it was said that he immediately applied to the secretary of the Ecole des Beaux-Arts to know in how short a time the Prix de Rome in architecture could be taken; on being informed that the shortest time in which it could be taken was two years, he enrolled at the school and took the prize in that time. As Professor of Construction his class was one of the most interesting in the school. He seemed to know so well how to rouse the interest of the students in his subject, and without taking them too deeply into the problems of engineering to give them a sound knowledge of the laws that underlie its practice.

I do not understand about those laboratories which have been mentioned. If they are organised to give their students what may be called the "shop traditions" of the crafts, it seems to me they will be intensely useful. But I would set that as altogether distinct from "research laboratories" in which materials could be tested and the laws which govern their combination explained. We say to our client: We propose to make a design realising your requirements; we propose in that design to enlist the capaci-



ties of an indefinite number of crafts, and to make them work together harmoniously to one end. If we propose to do that, we must be sufficiently familiar with the traditions of those crafts to appreciate their possibilities—they must be at our fingers' ends. And that can be taught in schools, and I think it should be taught by very constant visits to the more unusual structures (usual structures for the junior students, but the more unusual ones as students grow up). No man, I think, can write a specification unless he has some real knowledge of the ordinary practice and "traditions" of the crafts. We do not undertake to change those "traditions" or practices, we accept them as they stand, but using them for our clients' purposes we may put before the craftsman new problems, giving him interest and pleasure in its execution. I have been surprised at the pleasure with which good craftsmen, of one craft or another, noticed any new sphere in which they were called upon to act, any sphere which to them seemed to put them on the strain. They recognised it as a strain, perfectly legitimate to their craft, but they enjoyed it and were proud of the result. All the necessary functions I speak of can be taught in the school. The way in which they can be applied subsequently in practice must depend on the individual. I do not think that in anything you can do more than teach the students these so-called scientific truths. Many students will never get past the expression of the science they have been taught; but at any rate they may be trained to give cultured expression to their ideas, and so may recognise "genius" when it turns up, and that is not altogether an unhappy position. We must admit that men may come into the spheres for which we have been trained, who, so far as our knowledge goes, have had no science training, and yet can express themselves in a way not possible to us. There is a something in them which makes their capacity different from ours; all we can do is to be thankful that we are able to see it. I do not think the standard at the Royal Institute is high enough; it should have the highest ideals in education. I think the standard should be much higher and yet give a man no further education than he needs to make him a respected member of the profession. Whether it should be in the form of post-graduate study or not I do not know, but I would like to see some element in the course which passed the student into the University, it might be, by way of a diploma, or an honours course; or the student might take his B.A. or M.A. with an art subject before entering as an architectural student: some method by which our education would be not wholly dissociated from the education of other professional spheres. In that way other professions would know what it meant to be an architect, and our work and our responsibilities would be better understood and appreciated by the public and our advice more generally sought.

MR. A. E. RICHARDSON [*F.*].—Mr. Atkinson's

remarks demand very serious consideration, especially as they enable us to visualise the limitations of the existing system of education. I should like to say that training in architecture, other than the rudiments of the art, is largely associated with the science of the mind. It is primarily a question of perception, taste, investigation of history, acquaintance with physical laws, and, above all, a profound study of humanity. As the individual develops his perspective of social conditions, in proportion as he increases his power to conceive, he begins to grasp actualities with certainty, and through the joint agency of precedent and tradition designs anew.

The education of the individual is purely personal, depending entirely on logical reasoning combined with ability to sequester one object from another, to amalgamate conditions which at first sight appear disproportionate, governed invariably by those rare flashes of inspiration which alone beget articulate composition.

The issues raised at this conference do not concern the training of the individual, for the genius has the power to educate himself. They turn rather on the greater issue of collective training. The important duty before us this afternoon is to inspect the crude machinery that has served up to the present to equip the generality of students.

There was a time when everyone in England from the client to the carpenter had an idea of architecture; this is equally true of France, where it was possible for Antoine, a carpenter and supervisor of building accounts, to model his designs on those of the scholarly Gabriel.

I shall endeavour to compare the methods of architectural education that pertained in the eighteenth century to a simple machine with an automatic movement. It worked comparatively smoothly from the time of Wren to the Regency. But the later mechanics were not satisfied with the simplicity of this contraption, the age of steam demanded an acceleration, so they yielded to force and added cog on cog, which only increased friction and retarded progress. During the past decade, such was the worn condition of the parts of this machine that a partial adjustment was decided upon, together with a new kind of lubrication; but now, in view of what is urgently required, this apparatus is not adequate to its task. It is sound economy to install a new plant, but we must incorporate the good points of the old into the arrangements of the new.

Leaving metaphor and coming to facts, it is not the function of this Institute to do more than augment the curriculum for the R.I.B.A. examinations, and to act in an advisory capacity to the many excellent schools now flourishing.

The limitations of the present system of training afford an interesting contrast with the way architectural education is dealt with in France and America.

True architecture is the outcome of fertility of the soil, but it also depends on the nature of the seed;

hence we find, in this country, a tendency to specialise in produce which stultifies rather than aids healthy development.

Solely for convenience in teaching, the manifold aspects of architecture have been arranged in a number of compartments; for example, construction, materials, sanitation, and other details form separate groups, the investigation of history is in another section, and design is expected to take care of itself. This, I submit, is the root of the trouble.

All the attributes that form part of an architect's equipment should be subordinated to the dominant factor, design. Concept, supplemented by reasoning, is the basis of architecture.

The investigation of history must be approached with a view to studying only the finest expressions of past activity. The student should not be bewildered with a catalogue of dates and facts; he should be trained to assimilate underlying principles of historic examples, and be guided to adapt old theories to new conditions. All the great periods in architecture owe some part of their vitality to methods of investigation and emulation. Yet it is strange that in some quarters this creed is not encouraged.

It is reasonable to suggest that the leading schools should be brought into closer touch with the Institute, with the Royal Academy, and with each other. There must be vigorous and healthy competition between themselves and groups of earnest students, augmented by public exhibitions and constructive and fearless criticism from distinguished architects.

In addition the Institute diploma should be raised beyond its present status, which enables a man of average proficiency to practise. A special certificate should be given for a diploma course of not less than a year, undertaken at a recognised school, the minimum age limit to be twenty-five years, and only those students who submit three designs during this period of training to be eligible for the studentship prizes.

Further, we must think Imperially, if we wish to anticipate the unprecedented developments that will without question take place in the Dependencies and Crown Colonies after the war. It is not Utopian to imagine London becoming the centre of architectural education, for talent in this country is unique and inexhaustible.

Regarding the remarks made by previous speakers concerning the functions of the architect being usurped by the engineer, I should like to point out that in the Victorian period the engineers very eagerly consulted the architects on questions of practical utility. It is known that when Dobson was designing the Central Station at Newcastle the engineers were in a quandary regarding the curve in the main line; they appealed to the architect, who adjusted the railway tracks for them and incorporated the rails into his scheme for the station. The engineers were not churls, and acknowledged their obligation to the architect's taste. Philip Hardwick was advisory architect to the London and Birmingham Railway,

Mocatta to the London Brighton and South Coast, Sir Gilbert Scott to the Midland, for whom he designed the grand iron vault in collaboration with an engineer, and Mulvany and Sancton Wood both advised the railway companies in Ireland. This is proof of the fact that the practical mind is not always capable of hitting off the most fitting solution of a mechanical problem.

MR. ALAN E. MUNBY, M.A. [F.]: I think there is a tendency for our discussions to wander into purely academic fields without crystallising, and I would like to draw attention to one or two things with the object of arriving at some definite result from the scientific point of view.

Mr. Davies spoke of the Research Council. The Institute has a Committee which is dealing with that Research Council, and I hope that Committee will be able to produce some results: it has already had a number of meetings. One of the subjects of its deliberations which is suggested at the present time is in connection with the education of an architect, so far as that is applicable to its terms of reference, so that we may see how far the work of the Research Council is capable of being utilised in connection with architectural training. I think it probable that the Institute Committee referred to will bring up some sort of report, which may come back to such a Conference as this.

With regard to general scientific training, I am certain the Public Schools could do very much more for us than they are doing at the present time, if we put the matter before them properly. I agree with the definition of science, in its broadest way, that it is simply "knowledge." But if we stated what natural sciences we agree are necessary, the Public Schools could do much more, by organising their forces. But one should not introduce professional education at a public school: that would be wrong. If, however, a youth stays at school until he is 18 or 19 years of age, his education during his last year or so might be given a definite trend in the direction of his intended profession. In that way he could be given that scientific knowledge which would be specially useful in his professional work. There is no doubt that in the Institute Examinations, as they stand, natural science is not enough emphasised. Take the hour's paper in mechanics which we used to have in the late Preliminary Examination; it gave no idea of the importance of science work in architectural studies. I do not think anybody contends that science is the main feature of architecture, but you cannot do good construction without a knowledge of science.

I will give you one instance of the way in which these things are dealt with in other places. In 1912 the German Government gave a grant in Dresden for the erection of a building for the study of architectural acoustics, a subject which is still very obscure. We put up buildings in the most cheerful way without having any idea of their acoustic properties, and we

know of many buildings which cost hundreds of thousands of pounds which are failures from the acoustic point of view. But here, in Germany, is a building where the Government is subsidising, on a large scale, the science of acoustics. Why could not we do that? That is the kind of thing on which the Government is prepared to spend much more money than has been spent so far, and our Institute Research Committee is about to lay this matter before the Advisory Committee of the Privy Council with a view to some specific action. There is no reason why we should not have an institution like the one referred to here in London.

To turn to another subject, I think we could do more with our Library. On the scientific and technical side the Library is very weak, and one does not feel that the Library Committee displays any interest in this direction. I suggest that this Committee might make a special study of the Patent Office Library.

I do not know whether I may say anything on examinations, but as an honorary examiner for some years, though only in a small subject, I would like to say that the "Thesis" in the R.I.B.A. Final is, as far as my experience goes, an awful fiasco. The theses I have to examine—and I am speaking as a man who knows what examinations are—are too often merely a collection of facts from a text-book, which anybody could do in ten days or a fortnight. Those theses constitute a travesty of the name. My idea of a thesis is a contribution which the author takes two or three years over, continuing to work at it during all that time more or less, something which is good enough to be published, and which would do an architect credit. I have had theses sent in consisting merely of ten sheets of foolscap paper, scribbled in bad English. I think if a man cannot do better than that with a thesis, it is better for him not to attempt it. The whole idea of this examination should be revised, perhaps, as some speakers have said, making it a post-graduate course, but making it a contribution to architecture itself.

**SIR JOHN BURNET:** This meeting shows how wide the scope of these Conferences may be. It is to be hoped that the subject may be considered sufficiently serious in these discussions to have a Committee appointed, on which perhaps professors in outside schools might be asked to serve, to consider not only what the architect should be, and can be, educated to do, but how his education can be correlated with the existing schools, taking the student from the time he leaves school, going on to the secondary school, the technical college, and even to the University.

**THE CHAIRMAN:** The idea of these Conferences is to get the broadest outlook on the whole subject, and we should be ill-advised if we stopped with the Conferences and failed to go on and achieve some practical

result after we have had time to digest the comprehensive and most interesting expressions of view we have received to-day. I think we may say certainly that what has been said at this Conference must bear fruit in the future. We here, and we as an Institute, will do all that we can to arrive at some practical result.

#### "Informal Conferences" at the Institute.

*To the Editor, JOURNAL R.I.B.A.—*

DEAR SIR,—Living in the country one rarely now has the pleasure of attending meetings of the Institute, but interest is keenly revived by the publication in the *JOURNAL* of last month of the report of the first of the series of conferences opened by Professor Lethaby and Mr. Henry Wilson. To seek to vitalise the thought of any body of men or of a people is a great enterprise; and if successful, a notable achievement. The war is drawing all men more closely together, and each is finding more in common with the other than he before perhaps thought possible—hence, pregnant opportunities. This applies most of all to the men who touch real things and issues, as in the fighting line. There, it is the man that tells. So also is it in the practice of architecture:—and, as one of the after speakers aptly pointed out, we want to meet more with and find common human ground with the several bodies which officially largely regulate and control the conditions under which we work and live.

I remember Mr. Selwyn Image at the Institute a great many years ago remarking how much our views undergo change when we meet people in the flesh and face to face, and in connection with this he told an old story of Charles Lamb. Somebody had been running down a certain gentleman whom we will call Mr. Brown. Charles Lamb got into a furious temper, exclaiming "I hate Mr. Brown!" The gentleman replied, "You cannot possibly hate Mr. Brown—you do not know him." "Know him!" exclaimed Lamb, "how could I hate him if I knew him?"

Don't you think we must insist less upon what is vicariously designated architecture, and more upon the needs of humanity and the general well-being of each other and of the race; all of which may be expressed in many forms of speech and in many directions of effort? On this broader human issue, surely each of us has something to say; and we must be as ready to learn from as to teach, official as well as our own more directly professional bodies.

All who are not fossils are students, so long as the power of thought or expression remains with them; but the cruder or more professional form of education, while necessary perhaps for the study of any specialised subject, often tends to restrict and narrow the natural impulses of the mind, except that it be founded upon something broader and more inspiring than the purely professorial—that is, upon love of and reverence for enduring things, upon sympathy with, or at least

knowledge of, mankind and humanity and their often seeming divergent but really uniform aims. If we can but think bigly and humanly we shall achieve bigly and enduringly; or, as an old poet and painter once said to me, "If a man has really something to say, something that the world is waiting to hear, then the means to express the thought will not be wanting."

This is what I think underlies the teaching of Professor Lethaby and Mr. Wilson. They want to get at the heart of things and to see things as they are: to be less burdened and concerned about unreal things, and to look at life and life's work with the clear trustful eyes of little children.

Even more than to do things beautifully, we want to do them well; and if we first do them well then the beauty will come without effort, and almost without our knowing. To posture is fatal: we want much to seek after that unconsciousness of self, which is alike the beauty of childhood and the child-like mind. Bones, ligament, muscle, flesh, and the amazing intricacy of the blood-vessel and nerve truly make up the physical man, but they hold and house those intangible things we call spirit and soul. The music of the violin is greater than the body and strings, greater than the creature of Stradivarius himself; and is not the beauty of architecture but the music which is the soul of the ordered structure built well?

At the very beginning of the war Mr. Asquith permitted himself to say a notable thing; and as nearly as I can recollect the words, they were these, "Those who do not apprehend the spiritual aspect of the war fail to realise its deepest meaning." So it is with architecture.

Professor Lethaby enumerates a number of abstract qualities essential to good work. One other, and a forceful one, we must accept from without, namely, "organisation." To-day we meet with it everywhere, in the war, in the great industrial works, and in emporiums. It is these needs we architects are called upon to house. The modern shopkeeper often only desires that his building has the quality or power to arrest and attract attention, more effectively even than does a string of sandwich-men in all the glory of their boards. But anything that is in itself *outré* or based upon novelty, is also in itself thereby fleeting and unenduring; and surely hankering after the *outré* is just the quality Professor Lethaby rails so forcefully against in much of the building of to-day.

A church fitly built expresses reverence and worship; a public building so treated, restraint and dignity—in other words, good-breeding in architecture; and good-breeding in architecture, as in other things, is a quality to be esteemed much more than the grandiose, the trivial, the blatantly aggressive, and the essentially vulgar. Is it not, however, in the realm of the domestic dwelling, of whatever scale or size, that there is to-day expressed the most deeply rooted and essential charac-

teristic of our race; and consequently, in it is rendered our most successful national architectural achievement. For to-day the home takes precedence of the church, because to-day its roots sink most deeply into the human soul, just as its fibres bind most surely; moreover, it embodies and expresses most truly, because most simply, and therefore profoundly, faith and trust between man and woman and between man and man; and so is, at once, altar and ritual in the worship of Almighty God. Few see clearly, and fewer still truly; but we can all cultivate the faculty of seeing: while sometimes one may be even taught to see, as was Elisha, and Elisha's serving-man; nor can we ever while life lasts forget Blake's vision of the rising sun. It is this lesson, perhaps this vision, Professor Lethaby and Mr. Wilson may seek to convey to us; that we, as also they, in learning to see better may also learn the better to do.

I remember very many years ago now, going one night to the Institute to hear Mr. Wilson read a paper to the Architectural Association. I forget what was the subject, but it was in regions well above our heads. Those who afterwards spoke, inferentially confessed as much. It was not practical enough, they said. On another evening I heard the reader of another paper, at the Institute I think, and by someone who also was not a crude architect; the title I forget, but it dealt with the architecture of a past day. The reader, I remember, at one part spoke of an ancient castle and moat, of the rich greys and yellows and browns of the stones; the beauty of the lichen, the luminous shadows, and the glories of the deep reflections in the moat; the changing lights, the ruffling of the surface calm by a gentle passing breath of wind, caressing rather than disturbing; but perhaps most sympathetically and understandingly of all, he told of the beautiful white water-lilies, and the delicate freshness of the green in their leaves; of the mystery and loveliness dwelling in all living things.

Again, as before, one of the after speakers complained that it might be all very beautiful, but that it was beyond them. He confessed he had hoped to hear more about the things of value and which they wished to understand better; the forms of the several openings, the fenestrations, their mouldings, evolution and dates. Then crossed my mind the words of an earlier Teacher, "Consider the lilies of the field, how they grow; they toil not, neither do they spin: Yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." Because we miss the humanness of mankind and the life vivifying alike animate and inanimate things, because our eyes are sometimes, even as artists, heavy and dull, we see often only the ceremonies of the dead and miss the living, breathing, voiceful soul. Surely we owe Lethaby and Wilson a debt for calling us again thereto.

JAMES A. MORRIS, A.R.S.A. [F.].



## THE HEATING AND VENTILATION OF SMALL SCHOOLS.

By PERCY MORRIS [F.], Devon County Architect  
(Education).

The subjoined Memorandum upon the Heating and Ventilation of Small Schools, written in December, 1915, may be of interest to some of the readers of the JOURNAL. The difficulties to which it calls attention are probably non-existent in industrial centres, where those responsible for the care of heating apparatus are likely to be better qualified for the work; but in agricultural districts the average caretaker may unwittingly be the cause of danger not only to himself but also to those around him.

The Memorandum is not written in any spirit of antagonism to those in authority, but at a time when opinions upon many subjects are undergoing change, and when economy is of supreme importance, no apology is needed for calling attention to the subject.

In spite of a special warning issued at the beginning of the recent spell of cold weather, and of printed instructions provided for the guidance of caretakers, no fewer than six cases have already been reported to me where damage to heating apparatus has resulted from well-intentioned but unskilful management, involving in most cases burst pipes and radiators.

With regard to open fire stoves, complaints of insufficient heating coupled with extravagant fuel consumption are becoming monotonous by their frequency, and in this respect I hear that our experiences in Devon are similar to those of other counties.

### MEMORANDUM ON THE HEATING AND VENTILATION OF SMALL SCHOOLS.

It is generally accepted as a fact that efficient ventilation depends upon adequate movement of the air and its capacity to absorb heat rather than upon its chemical composition, and that, within limits likely to be met with in a school-room, the respiratory impurity of air is negligible in regard to ventilation.

There is almost unanimous agreement that the necessary movement of the air in school-rooms can best be obtained by means of open windows in opposite walls of a room; the lower parts of these being provided with hopper ventilators to deflect the incoming current and deliver it at a suitable height above the floor level. Some such arrangement as this is imperative if open windows are to be used continuously in winter.

This method of ventilation necessitates not only largely increased heating power, but also the even distribution of heat throughout a room. No difficulty in this respect need occur in the larger schools, where low pressure hot water heating systems under efficient management are in use; but in the smaller country schools the difficulty is becoming pronounced, and unless dealt with in the near future will be the cause of considerable expenditure. There are several alternative methods of heating such schools:—

(a) Open fires fitted with boilers to work a supplementary low or medium pressure heating scheme.

(b) Open fire stoves.

(c) Gas radiators or stoves provided with flues.

(d) Closed slow-combustion stoves.

Of the foregoing, types (a) (b) and (c) are sanctioned by the Board of Education and, in theory, are undoubtedly best suited for the purpose; but in practice difficulties occur which need careful consideration.

Dealing with these seriatim:—

Experience of supplementary heating systems (type a), already installed, points to the fact that, except in isolated instances, they are unsuitable and likely to be a source of danger from several causes.

(1) The apparatus is generally in charge of a woman who has had no previous experience of heating systems and often fails to grasp the method of working and the necessity of constant watchfulness. For this reason also the apparatus frequently becomes air locked.

(2) Where there is no gravitation water supply the cistern must be filled by hand, and although this should not often be necessary, the fact may of itself be a danger even though a water gauge is provided.

(3) If the fire is not carefully looked after the water in the system may be made to boil.

(4) The fire cannot be kept burning throughout the night, as in the case of an ordinary boiler, and the system may become frozen.

(5) The temperature is difficult to control in mild weather.

Stoves of type (b), even though several sizes in excess of the nominal heating capacity for a stated cubical area, are found to be inadequate under working conditions. The distribution of heat is defective, since it seriously inconveniences those who sit near the stove and is found to be insufficient in more distant parts of the room. The cost, moreover, is at least 150% in excess of a slow-combustion stove of equal heating capacity. Two stoves might be used, but the Board of Education would require a chimney for each, and even if stove pipes were permissible, this type of stove is often unreliable in working if such pipes are used. In many cases a "Hospital" type of open fire stove would be required if it were to be effective in heating the room, involving an outlay of from £20 to £25 for a room of moderate dimensions. Fuel consumption in open stoves is also very heavy.

Type (c) would be prohibitive in cost even if gas were available.

With regard to type (d), which is not approved by the Board of Education:—In spite of their obvious defects, and subject to certain reservations, there is no doubt that in practice close slow-combustion stoves are the most suitable means of heating the particular kind of school in question. The cost of installation is small, the stoves are economical in fuel consumption, if properly used they last well, and the distribution of heat is more even than with open fire stoves. That this statement will be regarded as heresy I am fully aware, and for that reason I recognise that any appeal to

those in authority is unlikely to receive favourable consideration; nevertheless, I am becoming increasingly doubtful whether the general condemnation of close stoves is not due more to their misuse and the neglect of ventilation than to their inherent defects.

In the Report for 1911 of the Essex School Medical Officer there is an account of a very careful series of experiments in the heating of school-rooms by closed slow-combustion stoves, undertaken to determine "whether vitiation of the air of school-rooms is caused by the formation or escape of poisonous gases as the result of the combustion of coke or coal in modern closed stoves of the slow-combustion type." Preliminary investigation proved the existence of poisonous gas—carbon monoxide—in the air of unventilated rooms heated by this means. Experiments were therefore undertaken to determine the amount of this gas, which was found to vary from a minimum of 1 part in 140,000 to a maximum of 1 part in 30,000. The amount of carbon dioxide present was also tested and found to give low readings.

The experiments were made in rooms where *ventilation was purposely reduced to a minimum*, and the top of the stove and part of the flue pipe were allowed to become red-hot. In the case where the highest readings were obtained all the joints of the flue pipe were left unsealed and the conditions intentionally made abnormal.

The conclusions drawn from the experiments were that, even under the conditions mentioned, poisonous gases were present in such small quantities as to be negligible as a cause of ill-health, and the low readings of carbon dioxide were stated to "establish the fact that the aspirating effect of the flue effectually causes the removal from the stove of the products of combustion."

The Derbyshire School Medical Officer's report for 1911 also contained the following: "As we now have ample evidence that class-rooms heated by hot-water pipes can be efficiently ventilated, there is no reason why they should not be adequately ventilated when heated by slow-combustion stoves. Properly constructed slow-combustion stoves, especially those with a descending flue, should not be altogether prohibited when there is through ventilation and under suitable circumstances."

As a connecting link between the foregoing and ventilation as now understood, one must call attention to facts established by Dr. Haldane, Dr. Leonard Hill, Dr. Rideal and others. Only a few years ago the following statement, now generally accepted, would have been received with scepticism—I quote from a paper on "The Change of Ideals for Ventilation" by Dr. Jas. Kerr, M.A., whose work in connection with London Schools is well known:—"The risk, therefore, of a child being infected with disease through the air it breathes is negligible. Infection is a directly sprayed and not an air-borne contagion. The factors, then, variations of which, as likely to be

met in school life, are of no account, are oxygen, carbon dioxide, animal toxic products, odours, micro-organisms, and, within reason, dust. In other words: *The chemical composition of the atmosphere within any likely variation of respiratory impurity does not matter and may be neglected in ventilation.*"

It would appear, therefore, that *provided a room is properly cross ventilated* harmful effects are unlikely to arise from the products of combustion of slow-combustion stoves.

There remain two points upon which I have not touched:—It has been suggested as a subject for investigation that the physical qualities of radiant heat from iron surfaces may have a depressing effect upon vitality. So far as I am aware, no information upon the point is available, but the argument might equally be applied to highly heated radiators and hot water pipes. The other point is undoubtedly important—the humidity of the air—but if it may be assumed that theories in regard to what was considered the greater evil are in process of demolition, it should not be impossible to remedy the lesser one; in fact, opinions regarding it are already in a state of flux. To quote again from the Essex report:—"No doubt some of the bad effects erroneously ascribed to the production of poisonous gases by closed stoves are really caused by an unduly dry atmosphere, *the result of insufficient ventilation.*" The italics are mine. The proper degree of relative moisture in the air essential to good ventilation is a disputed point. Dr. Parkes and Dr. Shaw have both expressed the opinion that too much stress can be laid upon it. They point out that at very high and very low temperatures it is of great importance, and it is necessary under these conditions to have dry air, but at temperatures ranging from 55° to 60° they incline to the opinion that differences of humidity are not of great consequence.

In matters of this kind principles must be established by experts, and an architect expresses an opinion with diffidence; but it is his duty to watch developments, and, if possible, to meet difficulties which occur in practice by the application of new principles when once they are established. Now, although we may not succeed in eliminating all the disadvantages which occur from the use of slow-combustion stoves, or create a standard of theoretical perfection, yet by the exercise of care may we not modify harmful effects by reducing them to limits within which they are innocuous?

In view, therefore, of the results obtained by the experiments referred to, and of changed opinion in regard to ventilation, I submit that sufficient grounds exist for further investigation; and possibly for relaxation of regulations now in force. I suggest that the following conditions should be observed if stoves of this type are used:—

- (1) That the stove be of ample capacity to obtain the desired result without the necessity of raising any part of the stove to red-heat, and that where

necessary two stoves be provided to facilitate distribution of heat.

- (2) That the stove be not provided with an inlet for the delivery of warmed air.
- (3) That the top, as well as the sides and body, of the stove be lined with fire-tiles, which must be renewed at once when defective.
- (4) That adequate provision of hopper windows be made for ventilation, where feasible, in opposite walls of the room, and that instructions be issued requiring as many as possible of these to be used whenever the School is in session.

With regard to Condition 4 it would no doubt strengthen the case if a certain number of hoppers were fixed open, but the effect would be unnecessarily to cool wall and other surfaces during the night.

The idea that the humidity of the air can be regulated by a bowl of water placed upon a stove is, I believe, no longer tenable, and I do not, therefore, suggest it as a condition.

I admit that the introduction of the personal factor is the least satisfactory part of the proposal, but I have always held that this argument can equally well be used against ventilation schemes in general.

In conclusion I may say that this Memorandum has been placed before the County Medical Officer, who approves the views it expresses.

PERCY MORRIS,

County Architect (Education).

9th December 1915.

### THE RIGHT HON. ROBERT YOUNG, P.C.

The subject of the following brief memoir was born in Belfast 22nd February 1822, and passed away in the same city on 21st January 1917, having almost completed his 95th year. He was of Scots-Irish descent, as the family had emigrated to the shores of Lough Neagh early in the seventeenth century. Robert Young, c. 1650, issued his token with the legend "Robart Young dyer in Antrim." My father's father was James Young, who started in Belfast a wholesale woollen warehouse at the commencement of last century. His son Robert was born there, but his early years were mainly passed at White Abbey, where the family had full scope for out-door pastimes, and with his brothers he built boats, constructed model water wheels, and erected bridges *more suo*. His uncle, Dr. James Bryce (father of the present Viscount Bryce, O.M.), took him on his geological excursions with valuable results afterwards. At an early age he was sent to the Belfast Academy, where he received a good classical training under the Principal, Dr. R. J. Bryce, a well-known Latinist. Lord Chancellor Cairns and Sir Donald Currie were his class-mates. As the professor of mathematics at Glasgow University was an old friend of the family, my father was sent there for a year, where his fellow students were James and William Thomson (Lord Kelvin).

On his return to Belfast he was indentured to the

County Surveyor of Antrim, Sir Charles Lanyon, M.P. The fee charged was £357. Sir Charles held an exceptional position as County Surveyor, he enjoyed a good salary and his private practice extended over Ulster and afterwards throughout Ireland. Several of his pupils became well-known architects, including W. H. Lynn, R.H.A., and Sir Thomas Drew, P.R.H.A. My father became Lanyon's chief assistant soon after the completion of his apprenticeship, having previously carried out a number of important county works, principally bridges. On the starting of the Belfast and Ballymena Railway he was given charge of the section Belfast to Antrim. He was married in 1849 to the only daughter of Rev. Robert Magill, M.A., Antrim, and removed to Athlone, having been engaged as his engineer by William Dargan, contractor for the Midland Great Western Railway.

On returning to Belfast early in the 'fifties he commenced to practise as an architect and civil engineer; some years afterwards he took into partnership his pupil, John Mackenzie, J.P., the firm being known as Young & Mackenzie. In 1880 his only son Robert Magill Young became a partner in the firm.

In early years my father did some work as surveyor for London Companies, including the Salters in the county of Derry. He built a Presbyterian church at Magherafelt. He acted as surveyor for Lord Lurgan, doing some important work. A large house was built for Joseph Magill at the Cavehill, and several factories near Belfast. Like most provincial practices, that of the firm has been a varied one. Amongst their more important buildings are included a large number of Presbyterian churches, several intermediate schools, especially the Belfast Royal Academy and Watt's endowed school, Lurgan, and numerous National schools in Belfast, also many manse and church halls in Ulster; the Presbyterian Assembly Buildings and Hall, Belfast; large hospitals for Belfast Corporation and Poor Law Guardians; Insurance blocks for the Scottish Provident Institution, the Ocean Accident and Guarantee Corporation Ltd., and others; warehouses and banks. On reaching the age of ninety my father retired from active labour, but still remained chairman of the Lagan Navigation Co. and Linen Hall Library. He was created by the King a Privy Councillor in 1907.

He was a man of unceasing activity in mind and body, *mens sana in corpore sano*. In 1870, when we first travelled on the Continent, the churches of the Charente were his special study. He always rose so early that he had a water-colour sketch well in hand to show his son at breakfast. His love of Romanesque architecture led him to study the subject in various localities, and he gave the result, starting with Ravenna, in an illustrated lecture afterwards published.

He enjoyed a sketching tour through the Pyrenees, where fine examples of his favourite style were noted. Scotland was an attractive place for his holidays, as he combined sketching with geology, especially in the romantic Island of Arran. In his early life he gained

a wonderful knowledge of the ancient Irish music current in the Glens of Antrim, which he played on the violin, accompanied on the piano by my mother, who had a gift in that way. For years he assisted the Teis Ceoil as a judge of unpublished Irish arts. As a Senator of the Queen's University he did his best to encourage music. Some sixty years ago there was a remarkable merchant in Belfast called Francis McCrackin; he was a friend of Rossetti and Holman Hunt and other Pre-Raphaelites, and my father was thus introduced to their work. From this an artistic coterie sprang up of which he was a member. In addition to his art proclivities, he was an enthusiastic archæologist, keenly interested in palæolithic man, whose former presence in Ireland he firmly maintained. He had built, like many architects, a house for himself at Rathvarna, on the outskirts of Belfast, where he delighted to play bowls with his friends. During his long life he enjoyed excellent health, although his life was refused for insurance by a local doctor of repute some 75 years ago with the remark that he would not live six months. Within a week of his end he was at work on his water-colours. A slight attack of influenza turned to pneumonia and he passed away peacefully on the 21st January, without leaving a single enemy.

ROBERT M. YOUNG [F.].

### JOSEPH FOSTER WOOD [F.].

Bristol and the neighbourhood have suffered irreparable loss by the death of Joseph Foster Wood, though for some years he had not taken the full part in the work of his firm that he formerly did. Articled more than forty years ago in the office of Foster & Wood (his uncle and his father), he studied industriously, and after the death of John Foster, the head of the firm, he became partner with his father, Joseph Wood. He was elected Associate of the Institute in 1883 and Fellow in 1910. From 1910 to 1912 he was President of the Bristol Society, and for a while represented that Society on the R.I.B.A. Council.

He was a man of sterling qualities veiled beneath a modesty that never left him. Full of artistic feeling, his designs exemplified it. Possessing considerable knowledge of mechanics and other scientific subjects he was fond of applying it when dealing with constructional matters, and often successfully broke away from the usual methods. His love of beauty in detail was well known among his fellow-architects, and on almost all his works will be found the impress of his highly artistic and quite unusually delicate sense of the beauty of line and form.

As stated above, he practised for many years in partnership with his father. Of his later individual work examples are to be found both in the city of Bristol and on the countryside. Amongst many others the interesting front of some large business premises on the south side of Mary-le-Port Street was designed by him, and the *Times* and *Mirror* offices in

St. Stephen Street afford a picturesque example of his work in dealing with timber construction combined with brick and stone. A charming memorial tower at Churchill, Somerset, is a good specimen of his originality, while several houses in the country testify to his careful consideration of the picturesque combined with utility and convenience. In his early days he had assisted the partners of his firm in the preparation of drawings of many important buildings in the city of Bristol and in other places which stand to their name. For over 60 years the firm of Foster & Wood has practised at the same offices which are still in use, and for more than 50 years before that long period the firm was in existence and was located almost within a stone's throw of the same spot. It was in the year 1905 that Joseph Wood, the well-known father of Joseph Foster Wood, died, after an extremely busy life as an architect, leaving his son, who has now himself passed away, the sole representative of this long-established line of professional men. There followed shortly afterwards an arrangement with Graham Awdry, a former pupil of the firm and assistant in their office, but then practising at Westminster, by which he became a partner, and for some ten or eleven years the two worked together, renewing and increasing the friendship begun in the days of their pupilage. But some feeling of waning health and bodily power was beginning to make itself manifest, and Joseph Foster Wood gradually and reluctantly withdrew from an active part in the practice, only retaining in his own hands certain special work prepared and developed chiefly at his private residence.

His passion for botany and horticulture had now a chance of being indulged, but the outbreak of war upset many fair schemes. He felt, as the great conflict went on, that he must do more and more to help the sufferers, and for many months before his last illness he worked zealously at a depot, making crutches for the wounded soldiers.

Those who knew him best will not easily forget his truly lovable personality and his singleness of heart. His smile of greeting was one of the brightest imaginable; the grip of his hand one of the truest and most characteristic expressions of his deep feeling. He was sensitive to a degree, and so unselfishly modest of his own opinion when engaged in a friendly conversation on whatever subject, that if the other, carried away by eagerness, broke in upon his deeply thought-out and invariably wise remarks, uttered always with deliberation, he would stop in a moment, like the closing of a sensitive flower, but without any sign of annoyance, and await the other's pleasure before continuing. He had, indeed, a truly wonderful self-command that never seemed to fail him. Weakened to some extent by an attack of influenza about Christmas time, he caught a chill, and, after a few days of pneumonia, he passed on to the Greater Future, leaving many sad hearts to mourn his loss, but to remember ever the charm of his friendship and the influence of his fine character and noble example.

G. C. A.





9 CONDUIT STREET, LONDON, W., 17th March 1917.

## CHRONICLE.

### The R.I.B.A. Record of Honour: Forty-first List.

#### *Fallen in the War.*

ADAMS, Private HENRY EUSTACE [*Student*], Rifle Brigade, attached to the Royal Engineers. Died of wounds at the base hospital in France on 25th October last, aged thirty-eight.

Mr. H. E. Adams, the younger son of the late Mr. Robert Adams and a member of the well-known firm of inventors and engineers, was educated at the City of London School and London University, and served his articles with the late Mr. H. H. Collins [*F.*] and Mr. M. E. Collins [*F.*]. He passed the Intermediate Examination and was admitted Student R.I.B.A., but subsequently entered his father's business.

JAMES, Second Lieut. DONALD CROFT, Gloucester Regt., only son of Mr. Richard C. James [*F.*], of Bristol, aged nineteen.

STATHAM, Lieut. NOEL HORNER, East Surrey Regiment, attached Devons, third son of Mr. H. Heathcote Statham [*F.*], aged twenty-four.

#### *Award for Gallantry in the Field.*

TUBBS, Second Lieut. CECIL BURNELL, Som. L.I. (son of Mr. Percy B. Tubbs [*F.*]), awarded the Military Cross in recognition of his gallantry and devotion to duty in the field. The *London Gazette* of 3rd March says: "When sent forward to take command of a company he crossed the open many times under heavy fire, going from platoon to platoon explaining the situation. He set a splendid example throughout."

#### *Appointments, Promotions, &c.*

Mr. W. H. Ward, jun. [*Licentiate*], has been serving since the outbreak of war in the Royal Field Artillery, and has attained the rank of Major.

Mr. Douglas Wood [*A.*] has been appointed Deputy Assistant Director of Labour, France, with rank of Staff Captain.

Mr. Harold Harlock [*A.*] has been promoted Lieutenant R.N.V.R.

Major E. Bertram Kirby [*Licentiate*], son of Mr. Edmund Kirby [*F.*], who has been at the Front in command of a battery of artillery attached to a Canadian division, has been invalided home, and is now employed at headquarters at the Horse Guards for Home Defence.

Mr. Charles Lovett Gill [*F.*], of the firm of Messrs. Richardson & Gill, has been granted a commission in the King's Liverpool Regiment.

### Architects and National Service: Deputation to Mr. Neville Chamberlain.

Under the auspices of the R.I.B.A. and the Architects' War Committee a deputation representing the architectural profession in the United Kingdom waited upon Mr. Neville Chamberlain, Director-General of National Service, on Wednesday, 21st February, to urge in connection with the National Service scheme the utilisation of architects by the State for the special kind of work for which their training has fitted them.

The following is a list of architects nominated to serve on the deputation, and most of them were present:—

Mr. Ernest Newton, A.R.A., President R.I.B.A., Chairman of the Architects' War Committee; Sir Aston Webb, K.C.V.O., C.B., R.A. [*F.*], Past President R.I.B.A.; Sir John Burnet, R.S.A., L.L.D., Vice-President R.I.B.A.; Sir Ernest George, A.R.A. [*F.*], Past President R.I.B.A.; Mr. Reginald Blomfield, R.A. [*F.*], Past President R.I.B.A.; Mr. Paul Waterhouse [*F.*], Vice-President R.I.B.A.; Mr. H. V. Lanchester [*F.*], Vice-President R.I.B.A.; Mr. E. Guy Dawber [*F.*], Hon. Secretary R.I.B.A.; Mr. John B. Gass [*F.*], President of the Manchester Society of Architects; Mr. W. Alexander Harvey, President of the Birmingham Architectural Association; Mr. A. B. Burleigh, President of the York and East Yorkshire Architectural Society; Mr. Adam F. Watson [*F.*], President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors; Mr. Lennox Robertson [*F.*], President of the South Wales Institute of Architects; Mr. T. Forbes MacLennan [*A.*], President of the Edinburgh Architectural Association; Mr. Harbourn MacLennan, President of the Aberdeen Society of Architects; Sir Frank W. Wills [*F.*], President of the Bristol Society of Architects; Mr. W. Kaye Parry [*F.*], President of the Royal Institute of the Architects of Ireland; Mr. James Findlay, President of the Dundee Institute of Architects; Mr. Charles Cheverton, President of the Devon and Exeter Architectural Society; Mr. John Watson [*F.*], President of the Glasgow Institute of Architects; Mr. G. Frederick Bowman, President of the Leeds and West Yorkshire Architectural Society; Mr. J. Woodhouse Simpson, President of the Leicester and Leicestershire Society of Architects; Mr. E. Percy Hinde [*F.*], President of the Liverpool Architectural Society; Captain R. Burns-Dick [*F.*], President of the Northern Architectural Association; Mr. J. Alfred Gotch, F.S.A. [*F.*], Vice-President R.I.B.A., President of the Northamptonshire Association of Architects; Mr. H. Gill, President of the Nottingham and Derby Architectural Society; Sir William W. Portal, Bart. [*Hon. A.*], President of the Hampshire and Isle of Wight Association of Architects; Mr. A. G. R. Mackenzie [*F.*], President of the Architectural Association; Mr. A. Alban H. Scott, Vice-President of the Society of Architects; Mr. Edwin J. Sadgrove [*F.*], President of the Society of Architects; Mr. Percy B. Tubbs [*F.*], Past President of the Society of Architects; Mr. Basil Champneys, Mr. W. H. Cowlshaw, Mr. F. J. Wills; Mr. H. Martineau Fletcher [*F.*], Vice-President of the Architectural Association; Mr. Alan E. Munby [*F.*], Hon. Secretary of the Executive Architects' War Committee.

Mr. ERNEST NEWTON, A.R.A., in introducing the deputation said: The deputation which I, as President of the Royal Institute of British Architects, have the honour of introducing is representative of the whole profession of architecture throughout Great Britain. Our object in coming here is twofold: First, to indicate briefly the services we believe we can render to the State; and secondly, to offer these services and the whole machinery of our organisation in order to render them readily and easily available. Other speakers will go more into detail in regard to the specific services which architects can render, but I should like as a preface to make clear—what

is not, I think, generally understood—that the profession of architecture is essentially practical, and, although individually we may specialise more or less, collectively our work includes everything directly, and even remotely, connected with building. We are accustomed to surveying, estimating, assessing damage, and to the supervision of works of all kinds. We are familiar also with the construction of large and complicated factories of every description, as well as of public buildings and houses. As men of affairs and judgment we have to see that all these buildings are put up with a proper regard to economy in cost and arrangement. At a time such as the present, when our knowledge and experience should have been of the greatest value to the State, and would have saved delay, mistakes, and much waste of money, we have, as an organisation, been made no use of. It is now late in the day, but believing that in organising the man-power of the country it is more practical and economical to put men to work, so far as possible, which their training and experience enables them to do, we have asked you to receive this deputation, which offers you this skill and experience to make the best use of what may be possible in your scheme of organisation. I am also asked to say that we shall be glad to submit a practical scheme for your consideration or to assist in any way you may indicate.

Mr. REGINALD BLOMFELD, R.A., Past President R.I.B.A., said: Sir, as Mr. Newton has said, we are here to place ourselves entirely at your disposal in the way you think best. We think we can help you to some extent in calling your attention to some qualifications possessed by architects which have been greatly overlooked in the past. Soon after the war broke out, the Royal Institute of British Architects offered its services to the Government of that time and the Government failed to realise what the capacities of architects were. They turned the cold shoulder on them; and, in consequence, the country lost the services of a very capable, trained body of men. The qualifications to which I venture to call your attention—and I shall only put the matter quite generally—appear to me to be these: In the first place, architects are trained designers and constructors in all forms of building; they have to keep in touch with every sort of material and to know the new materials which come along, and they are, of course, familiar with the ones of which they have already had experience. They have to deal with every sort of building, from a pig-sty to a palace, and they have to deal, in the conduct of their work, with all sorts of unforeseen emergencies which may occur in the course of building operations and which must be dealt with then and there. Architects cannot wait about and let things drift or leave it to the builder: the architect is the man who is responsible, who has to take upon himself the responsibility of settling these things as they occur. And we venture to suggest that architects have more varied experience in building matters than have engineers, who are, often, specialised men. We have often to deal with rough-and-ready situations.

Mr. NEVILLE CHAMBERLAIN: I do not know that I quite understand the particular point to which this criticism is directed. It is only for my own information, I am not criticising your remarks. I understand you to say that the services of the Architects' Institute were offered to the Government and that they were not availed of as they might have been. Do you mean by that that the buildings which were erected were not erected with the aid of architects?

Mr. BLOMFELD: No. I am talking about the general

services which might have been rendered by architects in all sorts of situations. My remarks were calling your attention to the fact that we think the training which architects receive enables them to deal with all sorts of varied situations. One of the most essential qualities of architects is resourcefulness in dealing with matters rapidly. Then there is the question of draughtsmanship. Architects are not only trained designers and draughtsmen on their own, but they are able to make drawings for others, and to see that drawings are properly carried out. Those who cannot do this would be useless in supervising work which has to be carried out to drawings. To know one's way about in drawings requires special knowledge and training, and that the architect possesses in a very high degree. And the third point I suggest to you, Sir, is: There is a prevailing idea that architects are merely artists. That is quite wrong: they are that and a good deal more. Half of our time and training and work is devoted to the organisation, the administration and control of manual and mechanical labour. During the last eighteen months or two years I have been engaged in superintending and taking part in a good deal of trench work round about London, and I find that in these trench systems, in addition to the position officer, there were civil engineers in charge of the works, who were drawing salaries, and later on their salaries were commuted and they were given commissions. I do not say they were not competent to do their work, but I think the architects were as competent, and in some ways more competent, because they are more used to rough-and-tumble work such as we sometimes have to deal with. This is an instance of the sort of service architects might have been called on to render. I shall not detain you further, Sir, with the remarks I have to make, except to say that we architects are, at this moment, precluded from the practice of our calling, but, as patriotic men, we cheerfully acquiesce in that, because we believe it to be for the best interests of the country. We are therefore in the position of having a good deal of enforced leisure, which enables us to place our services at your disposal in whatever way you may think best adapted to the interests of the country.

Mr. JOHN B. GASS: Sir, as President of the Manchester Society of Architects, I have the honour to specially represent on this deputation the 19 Architectural Societies of Great Britain and Ireland allied with the Royal Institute of British Architects and embracing the whole of the country. There are also 20 Allied Societies in the Overseas Dominions. I am supported on this deputation not only by the President and Past-Presidents of the R.I.B.A., but by the Presidents of the Allied Societies from all parts of England, from Wales and from Scotland, together with the Presidents of the Society of Architects and the Architectural Association—a deputation the most representative and important ever known in the profession of architecture. In the Manchester Society's area, and generally in the provinces, members practise as architects and surveyors, developing the practical as well as the artistic side of the profession. Many are specialists in factory and workshop design and construction. The training and experience of architects enable them to arrange and design buildings in the best way for their effective use, construct them scientifically and give them suitable architectural character. As you know, Sir, the universities and municipalities in the great industrial centres, including Birmingham, have all comprehensive courses in architecture. The examinations for membership of the Royal Institute of British Architects lay great stress on planning, scientific

construction, materials, sanitation, and general practical equipment for work, as well as on artistic ability, and modern practice makes the same demands on all architects. I mention these things, Sir, to emphasise the fact that this specialised training, with practical experience of affairs, has brought forward a race of highly trained and practical as well as artistically minded men who practise in the various parts of our country. Their services for the commonwealth would have been of great practical and economic value if properly utilised. They were never so utilised, though their services were urgently required from the beginning of the war and are required now. Architects form an organised profession. Through the President of the Institute all their specialised services were placed at the disposal of the State in September 1914, when it was seen that those services were urgently required in the national interest. As an organisation they were never called upon to *help* in building in any way or to advise or suggest. Their services were, however, requisitioned when it was found necessary to *stop* building, and this stoppage was in part owing to the bad arrangements previously made for dealing with essential national building works. The Allied Societies were ignored altogether, though they could have been of great service in the various districts. As a whole organisation, Sir, it has been stated that we were unknown to the authorities—the only official requests for services were as unskilled labourers, as bargees, or in connection with charitable work. The architectural profession, as the directors of the scientific and technical side of building construction and requirements, is the recognised professional director of the building trade. Owing to their not being called upon the whole of the general organisation of the building trade of the country was not utilised for the many national building works requisite in all parts, with consequent unsatisfactory arrangement, delay in completion, inefficiency and waste. The organisations of practically all other of the necessary trades—iron, leather, chemicals, and others—were utilised to great advantage in the public service. The Allied Societies put forward the following suggestions for your consideration:—

That an Architectural Advisory Committee, with representatives in the Allied Societies' Districts, might be appointed.

The Architects' War Committee, with the Allied Societies, will undertake to further extend their register, classify and recommend for employment experienced architects for control of national building operations and buildings; these to be appointed to positions as required through the Advisory Committee and, as far as possible, in their home districts.

When advantage would accrue to the State, special arrangements might be made with architects to undertake part-time duties in the districts in which they practise.

The special training and experience of architects enable them to undertake all duties in connection with all classes of buildings and the various works connected therewith, as well as inspection work dependent on the carrying out of drawings and specifications.

When demobilisation occurs this organisation will be available to assist architects on active service in returning to professional work in civil life.

Sir, we, the elder men of our important profession, appreciate the value the national organisation you have undertaken may be to the State. In the public interests we feel very strongly that in your organisation for National Service there should be a definite place and a recognition of the value to the nation of the training and specialised experience of the members of the architectural profession, and they should not be dealt with in the exceedingly unsatisfactory way heretofore adopted.

Sir ASTON WEBB, K.C.V.O., C.B., R.A.: I ask you, Sir, to feel that we are here recognising the enormous responsibility and difficulty of your office, and that our desire is to assist, if we can, in one branch of occupation in this country by explaining to you how we would wish to place our services at your disposal. We would like to say—as I think has already been said, and I might say it once again—that we hope that when you come to allot the work that it may be possible to allot to architects work which their previous training will have qualified them to undertake. At the same time I think I am speaking for the whole of our profession in saying that we unreservedly place our services entirely in your hands in the way you think they can best be employed for the needs of the country. But we think men who have been trained as we have been would be more suitably and more usefully occupied in similar work to that which they have been accustomed to than in being put to some outdoor occupation which probably they would be very incapable of satisfactorily carrying out. I have heard of gentlemen high up in my profession offering their services at the War Office, for instance, and being referred to the Labour Bureau, as being the proper place for them to apply. That may be right, or it may be wrong, but I must say that it has hurt them, and it does not encourage voluntary help for their work to be referred to a Department—which may be the right one—but which does not strike us as being quite the one which we should have expected to be sent to. I might also say—although I am aware you know a great deal about architects and architecture, and it may seem almost impertinent in me to explain to you—that we are accustomed to undertake work of all sorts, from town-planning down to cottage building, and with all the intermediate work with which some or other of us are very intimately acquainted. A friend of mine who is engaged in Government munition work called on me the other day and said—not at all with reference to this deputation: he knew nothing of it—"I cannot understand why it is the Government do not employ architects more than they do in my work." I said "What do you mean?" He said, "In the work which comes before me there are all sorts of things which have to be examined and passed, such as large cases for munitions, shell cases which are made of teak and have to be made of the exact size to fit the shells, gun carriages, wheels, and the hundred-and-one things required that have to be put together in a certain way. We constantly find they are not the right size and are not put together in the right way, so that when they are put down on a platform, for instance, they fall to pieces. These are not exactly architectural things," he said, "but they are things which an architect is just the man to examine and pass. We want men who can understand a drawing when it is put before them and can take a drawing and a specification in their hands and see what is being delivered and see whether they are in accordance with the drawings and specification or not, and, if not, where they are wrong." It is a very simple thing, but the man, whoever he may be, who has to pass these things ought to have the training which architects have and which enables them to carry out that duty. I only mention this as one of many ways in which we could help apart from actual building work. One other point I would mention is that, although, as Mr. Blomfield said, our work has been compulsorily stopped—very properly, no doubt—we think that while our proper work has been stopped our ability to fall in with national work has been overlooked. It was stated in Parliament that engineers were wanted, rather than architects. That was a point

which we all felt very much at the time because we know that we are perfectly able, and more fitted, for a great deal of this work which is carried on in this country by the Engineers. I have no quarrel with engineers—both my sons were Royal Engineers, and I am not likely, therefore, to say anything against the Royal Engineers. But I say there is much work in this country going on which we should be better qualified to undertake than is a Royal Engineer. A great many mistakes have been made, we all know—it is common knowledge, though I should be the last to say that if architects had been employed there would have been no mistakes. Still, many of these mistakes would have been less likely to occur had those with our special training been employed. We do not profess to be cleverer than anybody else; all we profess is to have had a special training which has given us facility in one particular branch, and we hope very much that we may have the opportunity of exercising it. Our sense of responsibility has been mentioned. People say to us "Here is a certain amount of money. Please to carry this out for us for the sum which you say it should cost." There, again, the military engineer has not been accustomed to the same sense of responsibility: he has someone over him, and someone over him again, and again he has someone over him. We are accustomed to carry out work on our own initiative, which, I venture to think, is a most useful and desirable qualification, especially for work which is being done in a hurry, as this necessarily must be. These are a few of the reasons for which we have ventured to trouble you and take up your time by expressing the hope that we may find occupation on the lines in which we have been educated and brought up. And it is our desire to place the whole of our ability, skill and service at your disposal, and also the organisation of our societies, if you will be good enough to make use of them.

Mr. NEVILLE CHAMBERLAIN, in reply, said: Mr. President and gentlemen, I have listened with very much interest and a great deal of sympathy to the representations which have been made to me upon your behalf. It has long been in my mind that certain professions, including architects, were not being made as much use of as they might be, and I am anxious to do what I can, in this new Department which has been set up for dealing with, not manual labour only, but with man-power, whether manual or non-manual, of the country as a whole. I am anxious, so far as I can, in this new Department, to set up some organisation which will enable us to utilise, for the advantage of the country, special training and special aptitudes, such as those possessed by architects. My own business life has brought me into contact with architects to a considerable extent and, of course, I very well understand what their capabilities are. Now, with regard to the past, I do not think it is necessary for me to put up any defence of Government Departments with which, in the past, I have had nothing to do. I will only say I am sure you all have realised that when you enter upon such an entirely novel set of conditions as those which obtain in a great war like this, it is very difficult for a Department to change its whole attitude of mind and to adapt itself with the rapidity which we should like to such new problems as arise, and that if things have been slow, as they have been in many ways, I am quite certain that it is a state of affairs which is common to every single Government which is engaged in the war, whichever side they are fighting on. But now, perhaps, the time has come, although it may be late in the day, when it is possible to make some improvement, and

when that improvement, although late, may not be too late still to be of service. Of course, the difficulty is to find the holes into which to put the various pegs. I have got heaps of people who want jobs, but I have not got enough jobs for the people. And I think that really the most practical way of meeting the desires which you have expressed this morning would be for you to set up some sort of Advisory Committee, as was suggested by Mr. Gass, which could keep in touch with me, and which could suggest to me, from time to time, ways in which the services of architects might be utilised. I was rather struck with the suggestion which was made by Sir Aston Webb that architects may be used as inspectors. If they were willing to give their services in such positions as that I am bound to say that seems to me a very practical and excellent suggestion. I am not at all sure that we are not over-inspected nowadays: there are certainly vast armies of inspectors engaged in testing and passing materials required for one purpose or another, and I am not quite certain that they are all as necessary as they might have been in peace time. But I am sure that a good many of them have got special training which would enable them to do something else of particular value to the country. That is a suggestion I shall certainly bear in mind, and it is one of which I hope to make some use. Now, I want to tell you that I am endeavouring to make special provision for men of the professional classes. The scheme which I have put forward for National Volunteers has been criticised in some quarters on the ground that it was evidently not designed for men of the professional classes. Well, I would defy anybody to draw up a form of offer of service which would be equally applicable to every class in the country, and, of course, there are a far larger number of people required for manual labour than for administrative, clerical, or professional work; but the subject has not been lost sight of, and I have got an arrangement made under which offers of service, filled up by men who, on the face of their card, belong to those classes, would be sorted out from the others and dealt with in a different manner. Instead of going back, as the card does, to the local Employment Exchange, it will go to the Divisional Office—that is to say, the Headquarters, a higher office. There would be a special officer appointed, qualified to deal with this particular class of men, for the purpose of conducting the personal examination which is necessary in order to be quite certain that we have got the volunteers properly classified before we attempt to use them. A man very often does not know, or, at any rate, does not give a correct account of, his qualifications from our point of view. There must be some personal contact, and that is of advantage to the man, because it enables him to say by word of mouth a great deal more than he would write on paper. We shall have a special officer, in a special place, to deal with these professional classes, and, having got them classified and sorted, we shall take special measures to offer their services, to make it known to Government Departments and to private firms who may have vacancies for administrators, or clerks, or other professional men of one kind or another, that we have a body of such people whose services we are able to put at their disposal. I hope in that way—although one is never free from the possibility of mistakes—we shall be able to utilise the services of these people in the particular avocations for which they are best fitted. I would suggest to you that if your members who feel that they are able to do so—and I hope they will all feel that they are able to do so—will fill up our offer of service cards,



they will be treated in that way. They need not be afraid they will be sent to dig potatoes, or put to work of that sort: we are not out to waste labour in that way, whether it be manual or non-manual: we want to make the best use of everything, and we are going to try our best to classify our volunteers properly. You will help me very much if you will form this Council, and put before me, from time to time, such information as comes to you about work which you think you might be utilised for, and for which the services of architects are not now being utilised. I think perhaps the best plan will be for me just to turn over these things, and I might correspond with your representative, the President, upon the subject. I did not know exactly what it was we were going to discuss this morning, so I am not prepared to make a definite suggestion; but I will correspond with him, with the view to carrying out something on those lines, and I hope that in that way I shall be able to meet the wishes which you have expressed, and which, I recognise, have been prompted entirely by patriotic motives.

Mr. NEWTON: On behalf of the deputation I thank you very warmly for your cordial reception and for the very hopeful way in which you have foreshadowed your way of dealing with our difficulties. I need not say that, personally, I shall be only too glad to devote as much time as is left to me to offer any suggestions to you, and at the same time it would be of very great value if suggestions of possible employment might come from you to me.

Mr. NEVILLE CHAMBERLAIN: We will make it reciprocal.

#### Architects' War Committee and National Service.

An outcome of the deputation to Mr. Neville Chamberlain is the formation by the Architects' War Committee of an Advisory Council to confer with Mr. Chamberlain from time to time and suggest the best means for the employment of architects under the National Service Scheme. The Advisory Council consists of the following members:—

Mr. Ernest Newton, A.R.A., President R.I.B.A., Sir Aston Webb, K.C.V.O., C.B., R.A. [F.], Mr. Reginald Blomfield, R.A. [F.], Mr. H. V. Lanchester [F.], Mr. A. R. Jemmett [F.], the foregoing five members representing the R.I.B.A.; one representative of the following Allied Societies: the Birmingham Architectural Association, the South Wales Institute of Architects, the Manchester Society of Architects, the Liverpool Architectural Society, the Northern Architectural Association, the Leeds and West Yorkshire Architectural Society, the Sheffield, South Yorkshire and District Society of Architects and Surveyors; Sir John Burnet, R.S.A., LL.D. [F.], representing the architectural profession in Scotland, one representative each of the Society of Architects and the Architectural Association; Mr. Basil Champneys as representing unattached architects; and Mr. A. E. Munby [F.], Hon. Secretary. The Council have been given power to co-opt five additional members and, so far, Mr. Thos. E. Colcutt [F.] and Mr. H. D. Searles Wood [F.] have been co-opted.

The Advisory Council has the status of a sub-Committee of the Executive War Committee, and has power to act and to report from time to time to the principal Committee. Sir Aston Webb is Chairman.

A statement has been drawn up by the Advisory Council and issued for publication in the Professional and Daily Press and in provincial centres, advising architects to sign the National Service form and to send it *in duplicate* to the nearest Allied Society, or to the R.I.B.A. in the case of practitioners in London and the Home Districts. This statement is printed under "Notices" on page 128 of the present issue.

#### Charing Cross Bridge.

The South-Eastern and Chatham Railway Bill, the object of which is practically the reconstruction of Charing Cross Bridge, was read a second time in the House of Commons on the 13th inst.

The Royal Institute and the London Society had lodged a Joint Petition against the Bill, praying to be heard by counsel, &c., and the same arguments were adduced as in last year's Petition [JOURNAL, 24th June 1916, p. 279]. It further submitted that there was no urgency for the Bill to become law this Session. The work of altering and strengthening the Bridge would take seven years to complete, and the Petition pointed out that neither material nor labour would be available until after the war. It was also submitted that the reasons put forward for altering and strengthening the bridge no longer held good, for not only were the company unable to increase the number of trains running over the bridge, but they were actually running fewer. As Charing Cross Station was exclusively used for passenger traffic, the bridge was more than adequate for the restricted traffic now run over it. It was further submitted that while those interested in the improvement and development of London, and especially the district in the neighbourhood of Charing Cross Station and the opposite side of the river, were not relaxing their efforts to secure improvements, including the removal of the station to the south side and the substitution of a road bridge for the railway bridge, it was not possible at the present time for any of these schemes to materialise. Improvement schemes could only be promoted by the authorities having powers of raising money, and this could not be done until after the war. The company therefore should not be allowed to take advantage of present conditions and have the powers they sought granted to them this Session. In conclusion, the Petition urged the refusal of these powers and asked that time might be given for the petitioners to endeavour to secure that the proper authorities should take steps to effect the objects the petitioners had in view.

Sir WALTER ESSEX, in moving the rejection of the measure, expressed regret that there was no co-ordinating authority to deal with matters affecting the well-being of London, the Empire City, to review questions affecting its amenities, and to resist the invasion of its rights and privileges. The County Council might spend two millions on a magnificent county palace on the south side of the river, and from its windows have to look on this abortion of a bridge. The Bill would add to the abomination already caused by the use of the bridge as a lay-by for locomotives. The company's proposals were less for the necessary strengthening of the bridge than for a considerable enlargement of its traffic conveniences. The South-Eastern Railway had six great termini exclusive of Charing Cross, to which station only one-fifth of the passengers which the company carried to London were brought. Between 1902 and 1912 the number of passengers had decreased by twenty millions. He asked the House to refuse the Bill. For fifty years the railway had been a blight on Kent. It was ill-planned, ill-equipped, and ill-managed.

Mr. JOYNSON-HICKS, in supporting the Bill, said the Company were prepared to insert a clause providing that if the station and bridge were acquired within ten years for the improvement of London by any public body, there should be deducted from the compensation fund due to the Company the sum that they now proposed to spend on the strengthening of the bridge.

Mr. JOHN BURNS said that from the railway point of view the bridge and station occupied too small an area for the trade it had to do, it was incapable of expansion,

and was in many ways inconvenient. No strengthening of the bridge would get over those objections; the only satisfactory course was to have the terminus on the Surrey side of the river. London had made up its mind to have Charing Cross Bridge removed.

On a division, the second reading was carried by 184 votes to 56.

#### Architects and Fire Insurance.

At a meeting of the Insurance Institute of London, held at the Gresham College Hall on the 19th ult., a lecture was delivered by Sir Aston Webb on "Fire Insurance in Relation to Buildings and their Architecture."

Mr. T. M. E. ARMSTRONG, President of the Insurance Institute, in introducing the lecturer, referred to the enormous waste every year by fire, and advocated the pooling of the experiences of architects and of insurance offices in order to reduce the waste. The work of the architect and that of insurance offices were so intimately related, he said, that one would imagine that the R.I.B.A. and the Insurance Institute would have found it advisable to have a joint committee almost always on session, both parties having everything to gain and nothing to lose by being more closely associated. The architect by falling in with the insurance office regulations and studying their rating rules had it in his power to effect very handsome reductions in the premiums which his client would have to pay; and the insurance offices, by inducing the architect to erect buildings as far as possible fireproof, would save themselves a great many losses.

Sir ASTON WEBB, in his lecture, remarked on the extent to which the design and arrangement of buildings had been influenced by the restrictions, requirements and laws in relation to fire. The aspect of London had been entirely altered in the seventeenth century through the substitution of bricks for the picturesque wood which was the mode before the Great Fire. Again, in the present day, the use of fire-resisting materials, such as concrete, had greatly affected the interior appearance and architecture of buildings. The building regulations, though sometimes irritating, had been on the whole beneficial both to architecture and building, and had resulted in a sounder and more substantial method of building, which in itself was a gain. Such regulations could only be general; if made too stringent, great and almost intolerable hardships would be entailed on a large class of speculative building which the community required. Though in theory it would be desirable that all buildings should be of fire-resisting construction, it would in the case of small domestic buildings so raise the cost of construction as to make their erection at reasonable rentals impracticable. Quoting the figure of £10,000,000 as representing the annual loss in this country by fire, Sir Aston said he firmly believed that this could be largely reduced and that the insurance companies would be found willing to assist in attaining this end. The present 1s. 6d. insurance policy only required that a building should be built externally of brick or stone and roofed with slate or tiles. But the large majority of fires originate in interiors, and matters of first importance are the materials with which roofs are constructed and covered, the construction of floors, ceilings, and wall-coverings, also the construction of hearths, flues, fireplaces, etc. Is it possible, Sir Aston asked, to encourage fire-resisting construction to a larger extent than is done at present? One difficulty is cost: a fire-resisting building is more costly to build, though with the more general use of fire-resisting materials the difference will no doubt rapidly decline. Concrete,

asbestos, and other non-inflammable slabs, have in the last few months been largely employed in huts for walls and partitions, and with the present scarcity of timber are found cheaper and better. But though self-interest, professional advice, demonstration and research have done something, everything possible for the prevention of fires has not yet been done. One further inducement could be held out to the public to induce them to provide all possible protection to their buildings. The Fire Offices, he understood, offered special inducements in the way of reduced premiums to the owners of buildings which are erected on fire-resisting principles and also for buildings protected by extinctive appliances, fire alarms, etc.\* If this was correct it seemed to offer the very inducement required, but the advantages offered needed to be more generally known and understood and made available before the building was erected. The rules of the Fire Offices' Committee had a standard of fire-resisting construction applicable to all buildings except for a further standard for various types of mills. These rules followed generally the London Building Act requirements and appeared perfectly reasonable, but what advantages were given to buildings that came up to standard he was not clear, neither were others of his profession of whom he had made inquiries. Perhaps the Fire Offices' Committee could take architects more into their confidence, so that they could know to some extent what their requirements were to secure those rebates while their plans were in course of preparation. Insurance would then have its due influence on buildings and their architecture, for fire-resisting materials do undoubtedly make for good building. Buildings so constructed would be sounder and more durable, more cleanly and therefore healthier, and as there was nothing that influenced the design of buildings more than material, with new materials we should have new forms of construction and new problems solved in an up-to-date spirit.

Mr. ARMSTRONG, speaking at the conclusion of the lecture, remarked that the mere fact that an architect of Sir Aston Webb's eminence appeared not to be fully acquainted with the rules and regulations of the Fire Offices' Committee was very strong evidence that the Committee might do a great deal more to promulgate their rules and special discounts among architects.

Mr. O. MORGAN OWEN, in proposing a vote of thanks to Sir Aston, said that they were personally sorry that Sir Aston Webb had not known more about what the Fire Offices were doing. They had their standards of fire-resisting construction—five classes altogether—for which they offered a certain reduction according to the class. They made no secret of the reduction, and they would be delighted to acquaint the R.I.B.A. with full information on the point.

Mr. J. ROBERTSON, in seconding the vote of thanks, said he was sorry that the relations of the Fire Offices' Committee and the R.I.B.A. had not been as close as they might have been in the past, but he had no doubt they would be much closer in the future and was sure that by the two parties laying their heads together much good might be done.

Sir ASTON WEBB, in replying, expressed his thanks for what had been said as to keeping the R.I.B.A. informed of the various matters he had referred to. He would have

\* Sir Aston here quoted the following statement from one of the Fire Offices' Committee's printed papers: "The amounts of the rebates are not made public but are issued confidentially to the various offices by the Committee."

pleasure in conveying that intimation, and he assured the Insurance Institute that the R.I.B.A. would be pleased to see their President more frequently so that they could exchange views. He did not suppose that architects were blameless in these matters; but he had a sort of idea that the insurance companies kept this question of rebate rather in reserve. They all knew that the companies increased their premiums, but he thought it was rather a secret that they sometimes reduced them.

[Since the lecture Mr. W. Crichton Slagg, Chairman of the Fire Offices' Committee, has kindly sent to the Institute copies of the Rules of the Fire Offices' Committee for Standard Fire-Resisting Construction. These describe the type of construction to which buildings must conform in order to earn the reduced premium, and rules are included as to ferro-concrete or reinforced concrete construction. Mr. Slagg mentions that it would be impossible to give full information as to the discounts allowed for buildings conforming to the Standards, varying as they do for different classes of risks, but he states that the allowance for risks of Standards Ia and Ib construction runs from 35 to 50 per cent., while compliance with Standards II, III, and IV would entitle the buildings to correspondingly lower discounts.—Ed.]

#### Registration of Business Names Act, 1916.

The Council desire to call the attention of Members and Licentiates to the above Act, which applies to professions as well as to trades or businesses. In any case of doubt it would be advisable to write to the Registrar or consult a solicitor. The following is a short note of some of the provisions of the Act, which may be found to apply to practising architects:—

1. Every person or firm carrying on business for profit in the United Kingdom, under a business name not consisting of his true surname or the true surnames of all partners, without any additions other than Christian names or initials, must register under the Act.

The addition of the words "and Sons" or "Brothers" or "& Co." appears to render registration necessary, but where two or more individual partners have the same surname the addition of an "s" at the end of a surname does not of itself appear to render registration necessary.

2. Registration must be effected between 22nd February and 22nd March 1917, and after that date all business letters, etc., of persons or firms required to be registered, must have mentioned, in legible characters, the true surname and initials of all persons or partners in the firm.

3. Any change in the name of a person or firm must be registered within fourteen days, and also if any person or a partner in a registered firm changes his residence.

4. There is a penalty of £5 a day for non-compliance with the Act, and this penalty applies to every individual or member of a firm, and there are other heavy penalties as to defaulters, recovery of debts, wrong statements, etc.

5. Registration forms may be obtained (gratis) after 21st February 1917 at any Post Office. The registration fee is 5s., stamp on form.

6. All communications should be addressed to "The Registrar of Business Names," 39 Russell Square, W.C.

#### Victoria and Albert Museum: Exhibition of Furniture.

The war having temporarily claimed the London residences of the Duke of Buccleuch, the Duke of Devonshire and the Duke of Westminster, the valuable collections of furniture which they contained have been deposited by their owners on loan in the Victoria and Albert Museum, and the public is thereby indebted to them for a highly important and interesting exhibition.

The principal collection is that lent by the Duke of Buccleuch from Montagu House. It consists, for the most part, of French furniture belonging to the period of Louis XIV. to XVI., and includes a remarkable series of Boulle examples; pieces signed by Carlin and Joseph; chairs and screens covered with Beauvais and Gobelins tapestry; and many other valuable specimens.

The collection lent by the Duke of Devonshire from Devonshire House consists almost entirely of furniture designed by William Kent, the architect of that house when it was re-built in 1734 after a fire in the preceding year. It includes about twenty typical examples of Kent's work, and thus will afford to students a unique opportunity of studying the characteristic style of this important artist.

Among the pieces lent by the Duke of Westminster from Grosvenor House, the most striking are a pair of Boulle armchairs, similar to the well-known examples in the Wallace Collection and at Windsor Castle.

The Exhibition has been arranged in the Loan Court on the ground floor of the Museum, and is now open to the public. A brief descriptive list of all the furniture exhibited, with thirteen illustrations of selected pieces, will be issued, price 3d.

#### Exhibition of Antique Furniture and Tapestries.

At the Exhibition in aid of Edenhall Hostel, Kelso, for Limbless Sailors and Soldiers, now being held at the New Gallery, Edinburgh, Sir Robert Lorimer, A.R.S.A. [F.] and Mr. John Warrack, have arranged a Loan Collection of Antique Furniture and Tapestries and the Allied Domestic Arts. For this exhibition the King has lent the fine Queen Anne settee, covered with needlework of the period, from the private drawing-room at Holyrood, and also a pair of needlework chairs *en suite*. Sir Robert Lorimer has presented to the Library a copy of the Exhibition Catalogue—a very creditably produced brochure containing interesting notes on the treasures exhibited, together with photographic illustrations of tapestry, needlework, cabinets and furniture which figure in the collection.

#### The Manchester Society and the Old Infirmary Site.

At the special meeting of the Council of the Manchester Society of Architects, held Friday, 2nd March 1917, the following resolution was passed:—"The Council of the Manchester Society of Architects learns with profound regret that a Committee of the Corporation proposes to utilise the 'Old Infirmary Site' as a tramway centre. It enters a strong protest against the scheme for making a Tramway centre and erecting buildings on it in the manner set forth on the plan published in the report of the Special Committee on the Passenger Transportation Problem, and presses for a further consideration of the whole matter with a view to carrying out the scheme for which the Infirmary Site was specially purchased."

#### Royal Academy: Photographs in Architectural Room.

By a Special Regulation for the Summer Exhibition of 1917, photographs of architectural work will be admissible this year. The size of the photographs must be not less than 12 inches by 8 inches; they should be framed in slight wood frames with or without mounts, which may be tinted. The buildings shown must have been erected within the last ten years. More than one photograph of the same building may be included in one frame. Photographs of architectural sculpture will also be admitted under similar conditions.

## CORRESPONDENCE.

## British Red Cross Society: A.A. Detachment.

37 Great Smith Street, Westminster, S.W., 26 Feb. 1917.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—With talk of National Service in the air, most people are asking themselves how they can best use their energies to the national good. May I bring the claims of the Architectural Association Red Cross Detachment before them, as we are badly needing more members? The value of the work the Detachment is doing cannot be over-estimated. Those members we have are working very hard, but it will not be possible for them to cope with all the duties that the Detachment is called upon to perform unless their numbers are increased. We appeal particularly to members of the architectural profession to join us, and I am sure that their only regret will be that they did not come forward earlier and help in what is one of the finest branches of voluntary work that can be undertaken. Should there be any whose sympathies are with us but who are prevented from becoming members by age or distance from town, they can give practical evidence of their sympathy by sending donations, either for the general funds of the Detachment, which always need augmenting, or by subscribing towards the Ambulance which we are hoping to buy from funds raised by our members for use in connection with the Detachment work. Communications should be sent to me at the address given above.—Yours faithfully,

F. R. YERBURY, Quartermaster.

## MINUTES.

At a Special General Meeting, convened in accordance with By-law 70, to elect the Royal Gold Medallist for the current year, held Monday, 5th March 1917, at 4.30 p.m.—Present: Mr. Ernest Newton, A.R.A., President, in the Chair; 17 Fellows (including 8 members of the Council) and 5 Associates (including 1 member of the Council)—the object of the Meeting having been announced:

The President moved, Mr. E. Guy Dawber, *Hon. Secretary*, seconded, and it was

RESOLVED, unanimously, that subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of Architecture be presented this year to Monsieur Henri-Paul Nénot, Membre de l'Institut [*Hon. Corr. M.*, Paris], in recognition of the merit of his executed work.

The Special General Meeting then terminated.

At the Fifth General Meeting (Business) of the Session 1916-17, held Monday, 5th March 1917, following the Special General Meeting above recorded and similarly constituted, the Minutes of the Meeting held Monday, 5th February 1917, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of Charles Trubshaw, elected Associate in 1865, Fellow in 1882, and placed on the list of Retired Fellows in 1908; also of Henry Greig Badenoch (Newcastle-on-Tyne), elected Fellow in 1907.

It was resolved, on the motion of the Hon. Secretary, that letters of sympathy be addressed to Mr. Richard C. James [*F.*], of Bristol, Mr. W. G. Rowan [*F.*], of Glasgow, and Mr. H. Heathcote Statham [*F.*], all of whom had recently lost sons in the war.

The following candidates were elected by show of hands:—

## AS FELLOWS (2)

MORRIS: PERCY [*Cates Prize-winner 1897. Assoc. 1897*].  
WHEELER: CHRISTOPHER WILLIAM FREDERICK [*Assoc. 1902*].

The Meeting terminated at 4.40 p.m.

## NOTICES.

## ARCHITECTS AND NATIONAL SERVICE.

At a recent representative Deputation of Architects, Mr. Neville Chamberlain said that he would welcome advice as to the most suitable employment for Architects in the National Service Scheme, under which he asked all professional men to enrol, stating that he hoped to deal with such offers on a suitable basis. The Deputation has resulted in the formation of an Advisory Council, which has decided to ask all architects in a position to sign the National Service Form to send it IN DUPLICATE to the nearest Architectural Society allied to the Royal Institute, or to the latter in the case of practitioners in London and the Home Districts, so that the whole of these Forms may be collected and sent to the National Service Headquarters in the form of a united offer from the whole Profession.

It is hoped that a prompt and extensive response may result from this appeal.

ERNEST NEWTON, President R.I.B.A.

Chairman, Architects' War Committee.

ASTON WEBB,

Chairman, Advisory Council.

## Annual Elections: Council Nomination List.

Members are requested to note that to save expense the Council Nomination List will be issued enclosed with the April number of the JOURNAL and not sent separately as has hitherto been the practice.

## Informal Conferences at the Institute.

At 3.30 p.m.

21st March.—"New Materials and Methods as influencing Design." Opener, Mr. H. D. Searles Wood [*F.*]; Chairman, Mr. E. Guy Dawber [*F.*].

18th April.—"Architecture and Civilisation" (*adjourned from 24th January*). Chairman, Mr. F. W. Troup [*F.*].

2nd May.—"Education of the Architect" (*adjourned from the 21st February*). Opener, Mr. Harry Wilson; Chairman, Professor W. R. Lethaby [*F.*].

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